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Original Communications.

A CASE OF SUCCESSFUL LIGATION OF THE THIRD PORTION OF THE SUBCLAVIAN ARTERY FOR THE CURE OF AXILLARY ANEURISM.

BY ORVILLE HORWITZ, B.S., M.D.,
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PROBABLY the most common cause for the formation of aneurism of the axillary artery is over-exertion and traumatism. The close proximity of the tumor to the heart, and the loose connective tissue surrounding it, predisposes to very rapid growth, with all the attending dangers of rupture; consequently, early and energetic treatment is indicated.

It is essential that the operation should be performed as soon as possible after the diagnosis has been established. Barwell has shown that when the aneurism is purely axillary three out of four cases treated by ligation of the third portion of the subclavian artery recover; but if allowed to remain, the aneurism is apt to change to the subclavio-axillary variety, in which case the mortality from operation is greatly increased. Ninety cases of the latter description are tabulated in the "International Encyclopædia of Surgery" in which the ligature was

employed; out of this number, twenty-seven died, making a mortality of 35.5 per cent.

The methods of treating axillary aneurism are diet and rest, manipulation, proximal pressure, distal and direct pressure, galvano-puncture, injection of the perchloride of iron, and, finally, ligation of the third portion of the subclavian artery.

The first two methods are unsatisfactory, and we fail to find any cases reported where they have been employed successfully. Proximal pressure more frequently fails than succeeds; it is a very difficult form of treatment to properly carry out. It might be tried when the aneurism is seen early and is very small. Distal and direct pressure have likewise failed. Galvano-puncture might be employed in those conditions which render ligation impossible. The use of perchloride of iron by injection should be looked upon as a very dangerous expedient and not to be recommended. This leaves ligation as the most certain and the best method of treatment that can be employed.

The results of sixteen cases of aneurism of the axillary artery treated in six of the London hospitals are as follows: Five cases by pressure: three failures, one death, one recovery. Three amputations, three deaths. One by Valsalva's method with aconite, no benefit. Three expectant measures, three deaths. Four ligations: three recoveries, one death.

After briefly stating these preliminary statistics, I take leave to submit the case of Edward Deaver, a laborer, forty-eight years of age, who was admitted to the Philadelphia Hospital on the 1st of April last, complaining of pain and loss of power in the right arm.

The patient was not addicted to alcoholism, had not been the victim of syphilis nor rheumatism. His family history was negative. Heart, lungs, and kidneys were normal; there was a slight arcus senilis.

He stated that two months previous to his admission to the institution he began to suffer from pain in the right arm, which was neuralgic in character and most marked in the neighborhood of the elbow-joint. Occasionally the pain would dart down into the hand and fingers. The pain gradually increased in severity and was aggravated by using the arm or allowing it to hang by the side of the body. At times he would be obliged to raise the arm above the head in order to obtain relief from this troublesome symptom.

Shortly after the onset of the pain a tumor appeared in the axilla, which rapidly increased in size.

On examination, a fulness was discovered beneath the clavicle; the axillary space was occupied by a swelling about the size of an orange, which, on palpation, was found to be the seat of an expansile pulsation. It was pseudo-fluctuating and compressible. The radial pulse on the right side was markedly diminished in volume in comparison with that of the left. On auscultation over the tumor, a loud bruit was clearly discernible. There was considerable œdema of the hand and wrist. It was apparent that an aneurism existed, and the ligation of the third portion of the subclavian was decided upon.

On the night before the operation the patient was prepared in the usual manner.

Having been placed on his back, the head drawn to the left side of the body and the shoulders raised, the arm was pulled down and the forearm pushed well under the back, after the manner suggested by Treves, who claims that the placing of the patient in this position pulls down the clavicle and increases the size of the subclavian triangle. In order to avoid wounding the external jugular vein, the integuments of the neck were drawn well down below the clavicle; an incision three inches in length was made along the posterior border of the clavicle, extending one inch from the sternal end of the bone to the border of the trapezius muscle. The direction of the cut was so made that the incision ran just above the upper border of the clavicle, and the knife was drawn along the bone, sinking the instrument to only one-half the depth of the clavicle, by which means the layer of fascia which runs from the sterno-mastoid to the trapezius muscle was divided, after which, following the suggestion of Barwell, the rest of the dissection was completed by means of the dry dissector. The transversalis colli vein was found distended and much in the way, but was held to one side by means of a blunt hook. The scalenus anticus muscle having been laid bare, the tubercle of the first rib was easily located, as a guide to the artery, which was discovered in company with the lower cord of the brachial plexus, which was lying upon and attached to the vessel. The nerves were separated from the artery and drawn to one side, bringing the sheath of the vessel into view. The artery was then freed from the connective tissue surrounding it by means of the index finger. The sheath of the artery was carefully torn through by the aid of a grooved director, when the wound became immediately filled with blood; the index finger was carried to the bleeding spot, and the part thoroughly sponged, when it was discovered that a small vessel in the sheath of the ar-

tery had been wounded. The bleeding was easily controlled by means of a pair of hæmostatic forceps. It was with some difficulty that the aneurism-needle could be made to pass around the artery, owing to the fact that the vessel was lying deeply under the clavicle. The sheath was adherent to the wall of the vessel. The artery was ligated with a stout silk ligature. The wound was closed by means of interrupted silkworm-gut sutures, no drainage being employed.

Immediately on tying the ligature the radial artery ceased to beat, the arm assumed a peculiar mottled appearance and became cold to the touch.

The wound was dressed antiseptically, the arm wrapped in cotton batting, lightly bandaged, and elevated on a pillow.

Within twenty-four hours the radial pulse began feebly to beat. The sutures were removed by the eighth day, union having taken place by first intention. Shortly afterwards the patient was discharged cured.

In reporting this case I venture to call attention to the following points of interest in connection with it :

By following the suggestion of Barwell,—that is, after dividing the fascia which passes from the sterno-mastoid to the trapezius muscle,—the knife was not again employed in the operation, so that the capillaries and small vessels lying in the connective tissue over the vessel were torn instead of being cut, and the hemorrhage, which otherwise would have obscured the field of vision and delayed the operation, was thus prevented. The isolating of the artery was thus rendered easier.

The best deep anatomical guide to the subclavian artery is the lower cord of the brachial plexus, which not only lies directly over, but is attached to the sheath of the vessel. When the nerve was first uncovered it was affected by a transmitted pulsation from the artery, and in appearance resembled it. It was, however, distinguished by its feeling of rigidity, and when compressed between the index finger and thumb no diminution in the volume of the radial pulse resulted.

It will be observed that it was stated that the aneurism-needle was passed with difficulty. Whenever this is the case, it is probably caused by the sheath of the artery being intimately adherent to the outer coat of the vessel.

When demonstrator of surgery I frequently observed that students in the surgical laboratory experienced great difficulty in passing the aneurism-needle after the artery had been exposed. While assisting a surgeon in this city some years ago in the ligation of the common carotid artery, the same trouble in passing a needle was experienced, when, suddenly, on using a little extra force, the instrument slipped under the artery and wounded the jugular vein, so that it became necessary to ligate both vessels.

The wounding of the small vessel in opening the sheath of the artery was not only unexpected, but to a certain extent alarming. We were under the impression that the location of a vessel in that situation must be unusual. In witnessing a similar ligation by Professor Keen previous to the amputation of the upper extremity, including the clavicle and scapula, on tearing through the sheath of the subclavian artery the same thing occurred.

These two cases lead one to infer that this condition may not be as unusual as is generally supposed. It is mentioned here so that any future operator meeting with a similar experience may not be unduly anxious. The sudden appearance of blood after opening the sheath of a large artery like the subclavian, coming from a deep, well-shaped wound, the bottom of which not being over half an inch long, might be the source of unnecessary anxiety, unless the origin of the sudden hemorrhage is thoroughly understood.

THE TREATMENT OF MALARIAL HÆMATURIA.

By H. A. Hare, M.D.,
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and
Wilmer Krusen, M.D.,
Instructor in Gynæcology, Jefferson Medical College.

In the Therapeutic Gazette for July, 1892, one of us (Hare) published the results of a collective investigation of the value of quinine in malarial hæmaturia, in which six hundred sets of questions were sent out to physicians residing in the areas marked in the census as having a death-rate from malaria of seventy per thousand or over.

The following information was also received from the replies sent in in answer to the questions asked in that research. It is interesting to note the views held by different practitioners, and the combined results of their opinions cannot fail to be of service to those members of the profession who have this serious condition to treat.

The following is the list of remedies used by the one hundred and seven gentlemen who sent

replies, and shows the States in which each one is most widely used:

Number of Physicians using the Various Remedies.

	Alabama.	Georgia.	Mississippi.	Texas.	Total.
1. Calomel	2	4	17	10	33
2. Tr. ferri chlor	2	5	6	12	25
3. Arsenic	3	3	9	8	23
4. Ergot	1	3	4	10	18
5. Turpentine	1	...	6	7	14
6. Sodium hyposulphite	...	...	6	4	10
7. Morphine	1	...	3	5	9
8. Gallic acid	1	2	1	3	7
9. Potass. nitrate	1	...	1	3	5
10. Mineral acids	...	3	...	2	5
11. Nitro-muriatic acid	1	1	1	1	4
12. Gelsemium	...	1	2	1	4
13. Ipecac	1	...	1	1	3
14. Tr. belladonna	1	...	...	2	3
15. Potass. citrate	2	...	...	...	2
16. Potass. chlorate	1	...	...	1	2
17. Potass. bicarb	1	...	...	1	2
18. Pilocarpine	1	...	...	1	2
19. Corros. sublimate	...	...	...	2	2
20. Hot baths (mustard)	1	1	...	...	2
21. Hypobromic acid	...	1	...	...	1
22. Potass. bitart	...	...	...	1	1
23. Oil of eucalyptus	...	...	...	1	1
24. Ung. hydrarg	1	...	...	...	1
25. Ammon. picrate	...	...	1	...	1
26. Salicin	...	...	1	...	1
27. Aconite	...	...	1	...	1
28. Spts. eth. nitro	...	...	1	...	1
29. Hamamelis	...	...	...	1	1
30. Phenacetin	...	1	1	...	2
31. Nitro-glycerin	...	...	1	...	1
32. Podophyllin	...	...	...	1	1

The following is a summary of the views expressed by the physicians who have sent in sufficiently full replies to enable us to utilize their reports:

Calomel is used by thirty-three physicians who have reported to us, of whom two are from Alabama, four from Georgia, seventeen from Mississippi, and ten from Texas.

Moody, of Alabama, gives it in large doses (5 grains every hour) until tarry discharges.

Cheatham, of Georgia, finds that when he gets good action from calomel, patients do well.

McGehee, of Mississippi, regards calomel as the "sheet-anchor."

Weight, of Mississippi, who has had an experience of one hundred and thirteen cases of malarial hæmaturia, gives 50 grains of calomel every three hours until three doses have been taken; has never seen a case ptyalized by this large dose. Whether the drug acts by relieving and stimulating the hepatic gland, and preparing for or aiding the action of quinine, or whether its action in stimulating the flow of bile and urine with increased elimination of urea produces the desired result is difficult to decide.

Carmack, of Mississippi, uses calomel during the onset.

Price, of Mississippi, in "alterative doses."

Kendrick, of Mississippi, regards calomel as the "sheet anchor."

Ford, of Mississippi, has more confidence in it than in any other remedy.

McPheeters, of Mississippi, uses it at onset with sodii bicarb., of each 5 grains.

Dunn, of Mississippi, administers 10 to 20 grains, in 5-grain powders, every one or two hours until dark biliary action.

Lester, of Mississippi, gives 30 grains, repeated every two hours, until three or four doses are taken.

Smith, of Texas, advises calomel above all else.

Tincture of Chloride of Iron.—Guice, of Mississippi, considers tr. ferri chlor. combined with arsenous acid the remedy *par excellence*.

Lester, of Mississippi, considers the diseased condition of the red corpuscles and administers iron.

Brownrigg, of Mississippi, and MacKenzie, of Texas, give the tincture of iron chloride (20 drops every four hours).

Shaw, of Texas, uses it alone or combined with small doses of quinine.

Sodium Hyposulphite.—Greene, of Missis-

sippi, considers it as positively germicidal and as aiding in elimination.

Jones, of Mississippi, considers it the best remedy, combining it with gelsemium and ergot.

Dunn, of Mississippi, gives 20 to 40 grains every three hours, after thorough purgation with calomel.

Eliot, of Mississippi, considers it among the best remedies after quinine.

Ergot.—Guice, of Mississippi, uses ergot hypodermically only as an adjunct to turpentine.

The majority of those using it regard it as useful as a hæmostatic.

Arsenic.—Moody, of Alabama, administers liquor potassii arsenatis (1 drop every half-hour until rigors are overcome).

Guice, of Mississippi, uses arsenous acid as a substitute for quinine early and throughout the attack; also for the relief of malarial cachexia, considering it the remedy *par excellence*.

Dunn, of Mississippi, uses it only after the urine has become clear, in the dose of 4 to 5 drops t. d. of Fowler's solution.

Montgomery, of Mississippi, gives 5 drops of Fowler's solution every two hours.

Twenty-three other physicians also recommend it.

Morphine.—Robertson, of Alabama, uses morphine "to quiet restlessness and reduce fever."

Smith, of Mississippi, uses it to relieve pain.

Brownrigg, of Mississippi, keeps patient constantly under influence of morphine, while Stockard uses it continuously "only for sedation."

McAdams, of Texas, uses it combined with belladonna hypodermically.

Swearington, of Texas, uses it in small doses.

Conalley, of Texas, gives 1/6 to 1/4 grain hypodermically, if much nausea or high temperature is present.

Watkins, of Texas, treats cases of hæmaturia with quinine combined with morphine "to quiet the stomach."

Turpentine.—Guice, of Mississippi, says, "To arrest the renal hemorrhage I have found turpentine the best agent in the dose of 10 drops every four hours, given in capsules, using at the same time turpentine liniment on the lumbar region.

McPheeters, of Mississippi, also gives same dose every three hours until the urine clears; if the stomach proves irritable he administers it by enema.

Lester, of Mississippi, values turpentine, thinking it aids in warding off uræmic poisoning. He has had one hundred and twenty cases.

Gallic Acid.—Moody, of Alabama, uses tannic or gallic acid in small doses, before nausea occurs, giving ½ grain at intervals of thirty minutes.

Kelly, of Georgia; Price, of Mississippi; Daily, Burts, and Oliver, of Texas, use tannic acid for the hemorrhage. Oliver combines it with calomel and sodium bicarbonate, as follows:

℞ Hyd. chlor. mite, gr. xvi;
Sodii bicarb.,
Tannic acid, of each, gr. viii.
M. ft. charta, no. iv.

Potassium Citrate.—Moody, of Alabama, thinks potassium citrate, prepared by saturating strong lemonade with potassium bicarbonate, is beneficial in allaying nausea and increasing secretion of urine.

It is also recommended by Cochran, of Alabama.

Potassium nitrate is used by Fort, of Texas, for diuretic effects.

Davis, of Texas, administers it in 30-grain doses.

SOME ADVANCES IN CARDIAC THERAPEUTICS.

By William C. Krauss, M.D., Buffalo, N. Y.

A CARDIAC stimulant is described by Dr. W. H. Porter as a remedy that calls into action the intrinsic or stored-up motor power of the cardiac muscle without directly affecting its nutritive condition. Have we at our command an agent that fulfils all these requirements? I believe we have, and recent investigations have proved that in strychnine we have an ideal cardiac stimulant whose worth is beginning to be recognized and appreciated. The attraction existing between strychnine and the vagus centre is an accepted fact; hence, besides its power as a cardiac stimulant, it acts with equal force upon respiration, digestion, and assimilation. It may, therefore, be said to strengthen the heart directly through the vagi, indirectly through improved muscular tonicity the result of increased activity of the digestive organs.

Porter, in a recent lecture, described the action of strychnine upon the heart as follows:

The tone of the heart-muscle is improved, compensation effected and prolonged beyond the period of administration, because the amount of contractile tissue is increased. A

building-up process is the result, not alone of the effect upon the circulatory centre, but because the nutrition of the heart, as of the rest of the body, is improved by reason of the action of the drug upon the digestive process.

Reichert, of Philadelphia, has published perhaps one of the best papers on strychnine, and concludes that there can be no doubt that strychnine exerts a number of important independent actions on the circulatory apparatus. The action was not exerted on the accelerator apparatus of the heart or on the heart-muscle. The typical and important effects during the stage of excitement are: a primary decrease in the frequency of the pulse, due to stimulation of the cardio-inhibitory apparatus; then an increase, due to a depression of the same; finally, a decrease, due to a depression of the excito-motor ganglion in the heart.

He found that the drug exercises a stimulating influence on the vaso-motor system, followed by one of depression; that the increase of the arterial pressure is due to a stimulation of the vaso-motor centres in the medulla, and the fall to their depression, which is preceded and assisted by a depression of the heart.

Strychnine is especially indicated in the weak heart of pneumonia and the febrile processes in general. In these affections it is superior to digitalis, or even the rapidly acting, diffusible stimulants, such as ether, alcohol, Hoffmann's anodyne, and the preparations of ammonia. It should be given hypodermically in $\frac{1}{30}$- to $\frac{1}{10}$-grain doses, repeated until some sign of the action of the drug is manifested.

Washburn, in the THERAPEUTIC GAZETTE for February, 1894, narrates a case of chloroform-poisoning with suicidal intent, where hypodermics of strychnine repeatedly given were followed by recovery of the patient. In another case of chloroform anæsthesia where the patient did not recover quickly, but appeared blanched, with an almost imperceptible pulse, rapid improvement followed upon the hypodermic injection of $\frac{1}{20}$ grain of strychnine.

In the alarming symptoms which often occur during surgical anæsthesia, hypodermics of strychnine act in a wonderful manner, and its use in such cases is gaining favor rapidly. Morton, of Philadelphia, resorts to it at once in cases of surgical shock. In weakness of the heart due to depressed nerve-force, strychnine is of paramount importance, and likewise in those cases of weakened heart's action due to influence of the emotions acting reflexly upon the cardio-inhibitory centre.

In the cardiac weakness often associated with neurasthenia, I have had excellent results with this drug, and from its manifold effects regard it as one of the most important agents in the Pharmacopœia.

The heart may be made to do increased work in three ways: first, the relaxation of a normal inhibitory control through the vagus nerve by the cardio-inhibitory centre; secondly, through the sympathetic (motor) fibres in the vagus itself; and, finally, through fibres with similar action in the sympathetic system. *Strychnine* acts upon the heart in the first and second ways just mentioned, and *strophanthus* acts as a cardiac stimulant or tonic in the second and third ways.

The literature touching upon strophanthus is as yet meagre, and conflicting opinions exist as to its value and efficiency in cardiac therapeutics. Reports are coming in, however, that bid fair to make it outrival its adversary,—digitalis,—as the action of the two drugs upon the heart is quite similar. To Professor T. R. Fraser we are indebted, along with Drasche, Zerner, and Loaw, for much that we know regarding the physiological action of this drug. The precise mode of action—that is, its specific action—is as yet not well understood. It slows the heart-beat, lengthens the interval between the contractions, and increases the energy of the muscular tissue. Its effect on the circulatory system, according to Shoemaker, is as follows: it lessens the ischæmia of the arteries and increases the rate of the blood-current to the veins, but does not materially affect the calibre of the arteries. Strophanthus has been used with good effect in the progressive heart-failure of elderly people, in angina pectoris, but more especially in the tachycardia so often present in functional and organic nervous affections. Moncorvo employs it in almost any period of childhood, from fifteen months to fifteen years, and has never observed the slightest intolerance of the remedy. The strength of the heart was always considerably increased and its rhythm steadied without detriment to the arterial tension, which was generally augmented and always regulated. Moncorvo is in the habit of giving from 6 to 10 drops of Fraser's tincture in the twenty-four hours. This author quotes eight cases of mitral disease accompanied by the usual symptoms,—palpitations, dyspnœa, insomnia, etc.,—improved and finally completely cured by strophanthus. In children reduced by severe dystrophic affections, strophanthus is a valuable indirect tonic. In asthma it acts upon the unimpaired cardiac muscle, but has no influence upon the asthmatic symptoms. Parenchymatous nephritis, with or without disturbance of the heart, is bene-

fited, and the infiltration disappears after use of the remedy. The action of the heart is rapidly stimulated and rhythm of the pulsations is secured. In the pulmonary and broncho-pulmonary diseases of children, so commonly complicated with cardiac asthma, strophanthus plays the part of a cardiac tonic.

It is, however, to its use as a cardiac sedative that I would call your particular attention, and more especially in that form of tachycardia so common in Basedow's disease, or exophthalmic goitre. Tachycardia is the most constant of the three cardinal symptoms of this disease, the exophthalmos and goitre being less pronounced and very often one or both entirely absent. In fact, in many cases the tachycardia will be the only symptom present for months, and on this account many cases of Basedow's disease are overlooked and wrongly diagnosed. Where the goitre and exophthalmos are absent or ill developed, the syndrome of Basedow's disease resembles rather closely that of neurasthenia, and these patients are treated as simple cases of "nervousness" by the majority of physicians. The writer has seen and treated ten cases of this disease within the past three years, and has met with uniformly good results in every case. The tincture of strophanthus was prescribed in each, along with the mild galvanic current, in those cases where this was possible. In one case of a young girl, with a pulse of 130 to 150 per minute, with a slight degree of exophthalmos and no thyroid enlargement, the trouble was diagnosed as "heart-disease," and the family counselled to return home immediately from Chicago, where they were attending the World's Fair. Terror-stricken and heart-broken, metaphorically speaking, they brought their daughter home as hastily as possible, so as to allow her to die peacefully in her own home. After six months of strophanthus medication, with occasional applications of galvanism to the sympathetic nerves, she is to-day as active and healthy as any girl of her age.

Another case—a young married woman, seen by me in the Buffalo Woman's Hospital, with an exaggeration of all the symptoms of this affection—made a slow but almost complete recovery under the use of strophanthus alone.

A third case, in which none of the symptoms were very well marked, but which had resisted all forms of treatment, yielded promptly to strophanthus in 5-drop doses twice daily.

Without taking the time to report the details of the other seven cases, I can say of them that the results of treatment were not merely temporary, but permanent. In some nerve tonics were administered along with strophanthus, but I do not believe that they acted upon the sympathetic nervous system, but upon the cerebro-spinal.

Ferguson, of Troy (THERAPEUTIC GAZETTE, February 15, 1894), has had uniformly good results with this drug in Basedow's disease, and has observed no relapses. Recognizing tachycardia as an early symptom, he has been able to forestall the blossoming out of the disease through the use of strophanthus. Many of the ablest neurotherapists, as Gray, Gowers, Strümpell, Hirt, and Seeligmüller, make no reference to it in describing their treatment of this disease, while Hammond, Oppenheim, Corning, Thompson, and others rely upon strophanthus for controlling at least the tachycardia.

In the passing procession of cardiac therapeutics, strychnine and strophanthus are in the lead, and doubtless will become more prominent and retain their supremacy because of their influence over the vital centres in the medulla to which the various systems of the body look for support and encouragement.

A CLINICAL LECTURE ON THE TREATMENT OF CHRONIC GLANDULAR GASTRITIS (FIRST STAGE) AT THE COOK COUNTY HOSPITAL, CHICAGO.

BY FENTON B. TURCK, M.D.,

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HAVING finished the etiology, the symptomatology, and the pathology of gastritis, we will now consider the treatment. At our last clinic we considered the pathological changes that occurred; we considered the pathology of gastritis in its various stages and the resultant effects upon other organs. For the purpose of convenience we divided gastritis glandularis chronica into three stages. To-day we shall consider the treatment of the first stages.

We regarded chronic glandular gastritis as an inflammatory process, progressive in character, due to some constant irritants. In inflammation are found hyperæmia, with increased activity of cell elements, both as to functional activity and the vegetative or hyperplastic condition. The functional activity seems to be increased in the beginning, to be followed by a decreased functional activity of both the glandular elements and muscular mechanism. The

process continues so long as the irritative causes exist. When these causes are removed, the functions are restored in proportion to the amount of permanent injury to the glandular, subglandular, and muscular tissue, and the changes produced in the circulation, the nervous system, and in the other organs.

In the first stages of gastritis are generally found thick, adherent mucus on the mucous membrane of the stomach, a hyperæmia, a hyperhydrochlorica, and an increased muscular activity, so that the contents of the stomach are rapidly forced into the intestines. The indications for treatment are divided, first, into local treatment; second, into general treatment. In the local treatment the indications are: 1, the removal of the adherent irritants from the stomach walls; 2, the application of antiseptics; 3, the internal application of electricity to the stomach walls; 4, massage of the entire organ. In the general treatment the indications are: 1, the restoration of the unbalanced circulation; 2, dietetics; 3, baths; 4, general massage; 5, exercise.

In the local treatment of the first stages of gastritis the first thing is to remove the adherent material from the walls of the stomach. The next is to render the soil as far as possible sterile, or, as it were, to put the soil of the mucous membrane in such a condition that the germs will not develop upon it. The germs will develop, but colonization upon the walls is one thing, and the distribution of germs throughout the whole organ, as it were, is quite another. The colonization of a number of germs upon the walls, growing and forming their toxins, produces many pathological changes. One pathological change we find is hyperæmia, followed by congestion. In the first stage this hyperæmia may become so intense as to produce a complete scarlet hue of the whole mucous membrane, as shown in this colored illustration made immediately after a post-mortem held yesterday on a patient from Ward 4. The difference between hyperæmia and congestion is this: in hyperæmia the arterioles become intensely dilated. As this irritation of the arterioles continues, we have then paralysis, to be followed by what is known as stasis,—*i.e.*, congestion. We also have a purely mechanical congestion, as in cirrhosis of the liver,—that is, the blood cannot pass back to the heart, and therefore it is left in the veins.

Lavage has been used for many forms of gastric disturbance. It became so popular that if a man had a pain anywhere around the stomach, the first thing was to wash the stomach. If he got well, then he had stomach-trouble; if he did not, then he had something else. Does washing out the stomach remove the mucus from its walls? It is quite difficult to remove the adherent material with the ordinary method alone. We have, therefore, tried this means. In the first place, mucus will loosen up very readily through the use of soap. As a means of removing this adherent material, we have, therefore, used here liquid soap. I will illustrate with this case. This case was before you in the beginning when the diagnosis was made. It has been here now for three clinics, and it will be a sample for the method of treatment of the first stages of gastritis. On examination, we found that the stomach extended to within one inch of the umbilicus. We found that there were no remnants of food in the stomach for six hours after it was eaten. Simply to find the so-called dilated stomach is not indicative always of any disease,—that is, the stomach may extend to the umbilicus in case of an enlarged stomach. The stomach that is dilated must show evidences of stagnation. If the stomach is capable of emptying itself into the intestines (within from five to eight hours, according to class of food), it does not make any difference whether it is large or small. For the purpose of removing the adherent material from the walls of the stomach we now introduce the revolving sponge, or what is known as the gyromele, into the stomach, injecting in two ounces of liquid soap. In order to remove the rugæ of the stomach we inflate with air. By producing rapid revolutions and passing the instrument back and forth, we reach all parts of the organ, and are finally enabled to remove all the material which, as you saw before, could not be removed by means of the stomach-tube. The doctor will now make microscopical preparations for your inspection.

After the adherent material has been thus removed, in some cases we wash the stomach out and in others we do not. In cases where the patient is extremely thin, we do not wash out the stomach. You know the method of washing out the stomach with Carlsbad salts in hyperhydrochlorica. Drinking large quantities of the hot saline water on an empty stomach has met with varying success.

Now we must render the soil unfavorable for the development of germs. There are various methods of doing this. Innumerable antiseptics have been used. In your clinical experience you have seen the various antiseptics in use; how just at the moment a sufficient

amount has been used to produce its effect, the stomach was intensely irritated and poisoning intervened. The method that we use here is the application of the essential oils. Oil of cloves and oil of cinnamon stand at the head of essential oils as antiseptics. All the other oils are of less active power. We put the oil of cloves and oil of cinnamon in this nebulizer. Here the oil is broken up into a fine cloud, which passes down one side of the double tube and returns through the other side, thus preventing over-distention with air. In this way we coat over the whole organ with the fine cloud of essential oil.

In its concentration it becomes an irritant, but given in this way combined with menthol it acts as an antiseptic and analgesic sedative.

If we use an antiseptic in water, it soon passes away. If we use an antiseptic like an essential oil and it comes in contact with the mucous membrane, it remains longer upon it.

In order to overcome congestion, massage has been universally used. Massage of the stomach has been attempted at times. Only a small part of the stomach can be reached. However, by the introduction of this revolving apparatus and the use of a large sponge inside of the stomach, a large portion of the stomach walls can be reached. The rapid revolutions affect the circulation, the glands, and the musculature in the same way that massage does the other parts.

From constant irritation of the stomach there results an exhaustion of musculature. This may also occur in stenosis. Hypertrophy of the pylorus may be the result of an inflammatory process. The hyperplasia of the muscle-cells, as well as the glandular cells, may occlude the lumen of the pylorus and result in stagnation. But the muscle weakness that follows in these cases where no stenosis exists is the result of constant irritation of its walls. You may restore secretion or you may not; but if the compensation is ruptured, if the stomach is no longer able to empty itself, we have a very severe pathological condition. We have the retention of food, we have the decomposition of food, we have the absorption of poisons, we have a lack of nutrition, rapid emaciation, and congestion of all the gastric vessels. In order to overcome these conditions we must make use of the various methods that I speak of. Einhorn and Ewald have shown the value of internal electrization of the stomach. The electrodes that they use reach the fundus or a small part of the gastric wall. In undertaking the massage of the organ with this instrument, we at the same time attach an electric wire and attempt to reach all parts of the stomach as far as possible by means of faradization.

When we compare the strong and sturdy peasants of Russia and Germany with our New England farmers, we find that the former, living under poor hygienic conditions, but subsisting on plain, coarse food, present a marked contrast to the latter, who have air as well, but live on a diet composed of pork and beans, doughnuts, and mince-pies. This wide difference is thus mainly a question of dietetics, the importance of which cannot be overestimated. Inasmuch as errors of diet is the cause of a large amount of our gastric disturbance, then, of course, it would be reasonable to say that the treatment of that disease by a method of dietetics would be a rational method. We must, therefore, know what class of foods to prescribe to the patient. If we find, as in this case, the first stages of the disturbance, if we find an over-activity of the glandular secretions of the stomach, if we find that the starch does not digest, but undergoes fermentation, if we find that we have starch accumulation in the stomach, we would not prescribe starch foods, at least for a time, but would attempt to give those classes of foods that do not undergo fermentative changes. Otherwise we would be furnishing the germs with a new medium in which to develop. To allow a residue to remain in the intestines for its peristaltic effect, we prescribe bran gems and diabetic bread,—*i.e.*, bread made from diabetic flour, in which but a comparatively small quantity of starch remains. Chopped meats, broiled (never fried) and made into Scotch collops, which are prepared by covering the chopped meat with water and allowing it to remain below the boiling-point for an hour and a half to two hours, when it is seasoned and served. Green vegetables seem to have an admirable effect in these cases, as they do not allow fermentative changes and are necessary for their "antiscorbutic" effect.

In the general effects of this disease, one of the greatest disturbances we find in the circulation. As in this case, the hands and feet are cold and covered with a clammy perspiration. The face appears drawn. The reaction on stimuli is sluggish. The general appearance is that of a congestion of the internal viscera and a contraction of the peripheral arterioles. In order to overcome this condition, we prescribe a bath, which has been recently reported in the *Wiener Medizinische Wochenschrift*, Nos. 1 and 2, 1895. The patient is placed in water at the normal temperature, which is gradually increased until it reaches 110°, 115°, and in

some cases 120° F.; 112° F. is a fair average limit. After a thorough injection of the peripheral arterioles and the whole body has assumed a scarlet hue, the patient is removed from the water and shampooed with ice. The ice does not have a cold effect and produces no shock, but has a stimulating effect on the vaso-motor centres and the heart, and prevents the disastrous reaction that often occurs after hot baths. To stimulate further, we continue with a douche of ice-water to which ammonia has been added. This bath requires from fifteen minutes to a half-hour.

Massage and exercise are of great value in the general treatment of this disease. Flexion movements, such as cause hypertrophy of the muscles, do not have the same general good effect that extension movements—such as bending, twisting, and respiratory exercises—have, which, while they do not overtax, reduce the venous and lymphatic congestion and supply arterial blood. After the extension movements, general massage may follow.

As we follow the disease down the intestinal tract, we find evidences of intestinal disturbance. We cannot reach the intestines, but as we have found this inflammatory process in the stomach, we can reasonably suppose that a similar process is going on in the intestines. As we cannot locally treat the intestines, we try to treat them in another way. We endeavor to produce an aseptic condition. For this purpose various antiseptics have been used,—calomel and others,—many of them being active poisons. In order to render the soil of the mucous membrane of the intestines unfavorable for the development of germs, we give a pill coated with shellac and betol, which combined will not dissolve in the stomach, but pass from the stomach into the intestines. These pills, which I have had made for this purpose, contain oil of clove and oil of cinnamon. After this pill has been introduced into the stomach it passes through the pylorus, and on reaching the intestines becomes dissolved and passes along the intestinal tract, and produces an aseptic condition, or rather retards the development of micro-organisms.

As we pass on to the colon, we find constipation a marked complication. In many of these cases we find the muscles inactive and the transverse colon and sigmoid dilated. In order to stimulate them, we pass in cold water. If we used warm water, we would simply produce dilatation of the vessels. We pass ice-water into the colon with the patient elevated to an angle of about forty degrees, so that the water runs up the colon. We massage the colon and force the water out through the tube. The good effects are often immediate. When an atonic condition of the dilated sigmoid occurs, the revolving sponge, or gyromele, is found very effective in overcoming a chronic constipation following gastritis.

Regarding gastritis as an inflammatory process in which we have to consider the local as well as the general pathological changes, we first, then, endeavor to remove from the stomach the adherent material in which the germs may develop, producing gastritis. We also endeavor to remove the congestion of the muscles and to overcome the muscle weakness. We try to consider the effect upon the intestines and the colon and the general passive congestion. We remove the adherent irritants, thus rendering the soil unfavorable to the development of germs, massage the stomach,—internally and externally,—apply antiseptics to the entire wall, prescribe a method of dietetics and special baths. All of these methods are comparatively modern and are more effective than all forms of treatment formerly used. However, much remains to be done. We must find out more about what is going on in the stomach and the intestines. The field is before you; the workers are few.

We must not grope around in the dark, endeavoring to follow this theory or that theory, but we must make a careful analysis, locate the organ, and from the history, from the physical examination, from the chemical examination, and from the microscopical examination we can arrive at some idea, at least, of the changes that occur in this disease and apply rational treatment.

SOME CRITICAL OBSERVATIONS ON THE TREATMENT OF ACUTE LOBAR PNEUMONIA, WITH A VIEW OF BRINGING ABOUT A MORE DEFINITE AND RATIONAL TREATMENT.

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IF there is one disease more than another that I have been interested in for the last eighteen years, it certainly is pneumonia. A disease with so high a mortality, especially among our profession, presents a serious side to every conscientious practitioner. I came very near dying from it in February, 1875. I entered the profession when bloodletting had become unfashionable; depletion was rejected as bad treatment, and those who could not follow Todd and Bennett in filling their pneumonic

patients with whiskey, took refuge in sedatives. The antimonials held a prominent place at first, but their merits were soon disputed by the vegetable arterial sedatives,—veratrum viride and aconite. On the Continent digitalis was brought into use, receiving both praises and condemnations. Since the days of venesection there is hardly a medicinal agent but what, at one time or another, has been tried by some one, had its glories sung, and passed away.

In the early part of 1872 I received a copy of Niemeyer's "Practice of Medicine." In the treatment of pneumonia he strongly urged the application of cold compresses to the chest, and even went so far as to claim abortive qualities for this method of treatment. I did not have to wait long to put Niemeyer's teaching to the test on the abortive basis. Since that time I have made extensive use of cold baths, cold packs, and the application of cold compresses or ice-bags to the chest-walls, with such extremely favorable results that I have been much surprised that this method of treatment has not come into more extended use. It appears to me that for a number of years past the pathological factors which threaten the life of a pneumonic patient have been well enough understood to warrant a more uniform, a more rational, and a more successful treatment.

To show that the profession is still greatly at sea in the treatment of pneumonia, we have only to look at the methods and the medicinal agents used. Bloodletting, like Banquo's ghost, will not down. Excellent men urge us to return to the spoliative treatment of our grandfathers. The antimonials still have their worshippers. There are few cases treated in this country to-day that do not receive more or less of veratrum viride or aconite.

Alcoholics still occupy a prominent place, and the profession is at variance whether they innervate or enervate the nervous system, or whether they sustain the heart or depress it by acting deleteriously on the respiratory and cardiac motor centres.

The coal-tar remedies are still prescribed to reduce the temperature, and various other medicinal agents are used for their imagined virtues. The chest is enveloped by some with hot poultices, by others with cotton-wool and oiled silk, and by others with cold cloths or ice-bags. Now, I ask any candid practitioner if this is not ludicrous in the extreme? It must be to an outsider, and would be to us if it were not attended with so high a mortality.

That we have not arrived at a rational therapeusis our conflicting and incongruous methods and agents and the frightful mortality furnish testimonials sufficient without any further comment from me. I will ask the reader to review with me some of the pathological features of this disease, the course it pursues, the vital organs it attacks, and the process of its fatality, and see if we cannot arrive at a more rational, uniform, and satisfactory treatment. The pathogenesis of pneumonia is well established. The pneumococci enter the system, breed, and multiply, and when the army has become large enough and they have produced sufficient toxin to overwhelm the nervous system the disease manifests itself by a more or less severe chill,—a chill that indicates that the nervous system is profoundly affected. In the strong and healthy the chill is of such a character and the feeling of prostration so great that many are already filled with apprehensions that a severe illness is upon them; while in the less robust, the feeble, or aged, although the chill may be of less severity, yet the shock to the nervous system is so great that an apprehension of a fatal termination not infrequently fills the patient's mind. Where the prostration is not so great during the chill or the first few hours, "within twenty-four hours after the invasion the aspect of the patient becomes characteristic; there is a rapid rise of temperature, attended with great prostration." (Loomis.)

As the local lesion has either not begun or is in its very incipiency during the first twelve to twenty-four hours, we cannot attribute this violent systemic perturbation to the inflammatory process in the lungs. Following the chill is a febrile movement more or less rapid and intense, while in other cases complete reaction never takes place, the patient dying early in the disease from adynamia. The febrile movement has no relation to the amount of lung-tissue involved in the inflammatory process. I have seen the thermometer rise to 106° F. before any physical signs made themselves manifest, and I have seen cases where only one lobe was involved show a much higher temperature-chart than other cases where double pneumonia existed.

So we can safely assert that the febrile movement does not depend on the extent of lung-tissue involved in the process of hepatization, but on the amount of toxin in the system.

This is true only partially, for the quantity of the morbific agent in the system may be so great as to overwhelm the nervous system to such a degree as to make perfect reaction impossible, a sthenic condition setting in from the first.

With the advent of the chill or soon after, and sometimes even before the chill, respiration is markedly affected. "The respirations are more constantly increased in frequency in croupous pneumonia than in any other disease. In most febrile diseases the respiration increases in frequency with the pulse-rate. In pneumonia there is no uniform ratio between pulse and respiration; this is regarded by some as an important diagnostic sign. In some cases the respirations will be 80 and the pulse only 90 per minute. The acceleration in the respiration is not in proportion to the amount of lung-tissue involved, but seems to be due to a peculiar condition of the nervous system which existed prior to the pneumonic seizure, or is caused by a poison acting on the nervous system" (Loomis); or, to put it more tersely, the acceleration in respiration in pneumonia has no relation to the amount of lung-tissue involved, but is principally due to a toxic agent acting on the respiratory motor centre, tending to paralyze it.

But the organ which towers above all others in importance in this disease is the heart. It is this organ on which the disease seems to spend its deadly force. It is this organ that we watch during the whole course of the disease with the greatest solicitude. Is the danger to the heart due to the pneumonic process in the lungs?

"I cannot regard a feeble pulse in pneumonia as due to the pulmonary hepatization, for it is not the pneumonia which is most extensive that is accompanied by greatest heart-flagging. Heart-failure may exist before or just as consolidation is beginning. In many pulmonary affections the obstruction to the circulation is greater than in pneumonia, and yet there is no heart-failure. The pneumonia with the highest temperature range is not necessarily the pneumonia in which heart-failure is most marked or earliest to develop. There are many diseases in which there is a much higher range of temperature, and yet no evidence of heart-failure occurs. If prolonged high temperature is the cause of feeble heart-power by the parenchymatous changes which it induces in its muscular fibres, such high fever is not met in pneumonia, and the heart is rarely found at post-mortem to exhibit such changes. *May not the heart-failure, as indicated by a rapid, feeble, and intermittent pulse in pneumonia, be due to the presence in the blood of a morbific agent which so affects the nerve-centres which supply the heart that its contractile power is diminished and its rhythm disturbed?* The pulse early shows commencing heart-failure by each cardiac pulsation,—a variable filling of the arteries with blood; hence the beats first vary in force, then waves occur, then true intermissions. I have been able to detect this heart insufficiency by these variations of the pulse within twenty-four hours after the onset of a pneumonia and occasionally during the initiatory chill." (Loomis, in "Pepper's System of Medicine," Lea Brothers & Co.) In addition to this toxic agent we have other factors which add to the heart's burden to hasten its failure, which will be adverted to later. The action of this morbific agent does not stop by attacking the central organ of the circulatory apparatus, but reaches the whole circulation through the vaso-motor centres. The dusky, often livid, hue of the face, the discoloration of the nails, coming on before the right heart is oppressed by the pressure of hepatized lung, is sufficient evidence that motor paresis of the capillary system has also taken place. But I would call particular attention to the condition of the circulation in the lungs themselves. The local lesion is still designated an inflammation, but so far all efforts to bring about a hepatization artificially by all manners of insulta have proved utter failures. Inflammation can be produced, but not the peculiar hepatization we find in pneumonia. I consider it far removed from an inflammatory process; in fact, has nothing to do with it. And what is it that puts the vascular and cell walls into the condition that lets the blood-mass stream through them and renders the lung-tissue solid, occupying the air-spaces of the lung-cells and minute bronchioles? The same morbific agent that paralyzes the respiratory, cardiac, and vaso-motor centres explodes with increased force on the vaso-motors of the capillaries and arterioles of the lungs. The vessels are paralyzed, and the blood streams, or rather oozes, through them like a sieve.

The next greatest danger to the patient is the febrile movement. It may be safely stated that, other things being equal, the higher the temperature the greater the danger to life. While a high febrile movement becomes an element of danger in all acute febrile diseases, due to the tendency to bring on heart-failure, in pneumonia this danger is many times enhanced. The injurious influences of a high febrile movement on the heart are added to the overwhelming toxic agent that is paralyzing the cardiac motor centres. As if this were not enough, a new burden, a new element of danger, is added to the right, the weaker, side of the heart. The outlet is diminished and more power must be expended to force the stream through the diminished lumen. The heart is the great cen-

tre of our solicitude and for our skill. Jürgensen has well said, "From all sides the threads run to a central point. It is the heart and always the heart which receives the burden to the last." We have, then, in pneumonia, for therapeutic considerations, an acute infectious disease in which there is produced a peculiar morbific agent which profoundly affects the nervous system, but more especially the cardiac, respiratory, and vaso-motor centres. This morbific agent, together with the febrile movement and obstruction to the blood-stream through the lungs, have a tendency to produce death by bringing on heart-failure. The complacent theory held by many practitioners and, I am sorry to say, by some eminent teachers, that pneumonia is a self-limited disease, with a natural tendency to run a favorable course, is indeed a dangerous doctrine. All the answer I need make is to ask those who entertain this theory to examine the mortality statistics under such a course.

I admit that the disease is self-limited; this is absolutely true; but the trouble is that the limit is too often coequal with the limit to the patient's life.

The infection having entered the system, it proceeds with its natural evolution, and the reason it does not kill every time is because the organism has too much resisting power, and not because the great army of micrococci have adopted the rule of live and let live. In the face of the great mortality, would it not be better judgment to consider this a dangerous disease and treat it as such from the start? From what has been said in the foregoing pages it is clear that, if we treat pneumonia scientifically, or at least rationally, we must fulfil, as nearly as possible, the following salient indications: we must bring on reaction from the initial chill as soon as possible; we must lessen the shock to the nervous system and prevent the patient from becoming adynamic; we must prevent and, where this is not possible, limit pulmonic congestion and hepatization; we must keep the temperature down from the beginning, the nearer the normal the better; last, and by all odds the most important of them all, we must take charge of the heart from the beginning of the disease, to lighten its burden as much as possible, to keep its motor centres toned up so that it may perform its important function until the great army of disease-producing germs has run its short but mischievous course. Now, to fill these indications, can we conscientiously use the antimonials, veratrum viride, or aconite, all heart depressants that can do nothing but hasten heart-failure? I have tried these remedies, and came very near losing my own life from aconite. Veratrum viride and aconite have extremely little influence on the temperature. All these remedies are good for is to help swell the mortality list. Antipyrin and antifebrin and their class are still worse, and hasten the heart-failure to a much greater degree.

What shall we say of the expectant plan? To my mind it is simply criminal to consider pneumonia a disease which has a natural tendency to recovery, and stand idly by waiting for some condition to arise which needs the aid of the medical attendant, and still I consider this course less dangerous than to give the arterial sedatives. Expectancy may do well enough in constipation, especially when you have an aloetic pill to give, but is a poor course to pursue in a disease that is liable to kill you in a few days. In so unfavorable a light do most of our mortality tables show up our modern treatment that there is scarcely a journal published in this country but what some time during the year contains an article asking the profession to return to the practice of our fathers, pointing to the statistics of both methods, which do not seem to flatter the modern method very much.

Is, then, bloodletting the proper treatment for pneumonia? It simply goes to show that our predecessors killed fewer with their spoliative treatment than we do by arterial sedatives, medicinal antipyretics, expectancy, and alcoholism.

What was the observation of the foremost physicians during the bloodletting period, especially towards its closing days? One bloodletting in robust cases was a benefit (?), two bleedings were liable to do harm, and three or more generally killed. Feeble or aged people bore it badly. But the main part of the profession continued their reckless spoliation till the laity would have no more of it. The life-destroying character of the treatment was recognized by the people, if not by the medical practitioners. Shall bloodletting ever be used again as a treatment for pneumonia? No, no more than the former insane and destructive use of calomel. There are now and then cases that may be greatly benefited,—benefited more and quicker than by any other remedy,—but such cases are by no means numerous. I will refrain from going into the merits of bloodletting where I think it would prove beneficial, as this article is already becoming too extended; besides, there are few that have the knowledge or courage to carry out the treatment.

What shall we do for the initial chill and the accompanying shock? A spacious room, as good as the house will afford, well ventilated,

is one of the first considerations. The physician and friends should allay the patient's apprehensions and inspire him with confidence. If a hot bath is at hand, the patient should be put into it, and the water may be made more stimulating by the addition of mustard or capsicum. The patient should be well rubbed by one or two assistants until reaction has taken place. If the perturbation is very great, a hypodermic injection of $\frac{1}{8}$ to $\frac{1}{4}$ grain of morphine with $\frac{1}{80}$ to $\frac{1}{40}$ grain of atropine is of the greatest benefit. If the case is a severe one, some of the arterial stimulants may be brought into service. To pour a lot of whiskey into a patient's stomach is foolish and pernicious. If alcoholics are given at all, it should be in very small, frequently-repeated doses. The hot bath, when it can be procured, with friction, will soothe the nervous system quicker by its action on the sensory and tactile nerve-endings in the cutaneous surface than anything else, while the heat and friction will relieve the peripheral vascular spasm—and, through this, the internal congestion—quicker than any other remedy. Where the hot bath cannot be obtained, we can often substitute the hot pack. Wring a woollen blanket out of water at 120° F., place it on a heavy all-wool double blanket, place the patient in the middle, and wrap him up snugly, being careful to let the dry outside blanket reach above and below the wet one. As in the bath, it can be made a little more reactionary by sprinkling a little mustard over the wrung-out blanket. But, as some patients' skins are extremely sensitive, it may necessitate the removal of the pack. It is better to only use the irritant from the knees down, if at all. Where the conditions are not such that we can use either the hot bath or pack, we must put up with artificial heat,—warmed blankets, bottles filled with hot water, hot plates, heavy blankets, diffusible stimulants, and the hypodermic already spoken of. By the time reaction has been established the diagnosis is established in the majority of cases; at least, there is a well-grounded suspicion.

I have been able to diagnosticate the great majority of cases that came under my care by the peculiar odor the disease carries with it, as some physicians are able to diagnosticate typhoid fever by *its* peculiar odor, and thus I have been able to commence treatment before the local lesion commenced. If a diagnosis is established in the beginning of the disease, before any hepatization takes place, is it possible to abort the disease?

This important question has been and is still answered in the negative by all but a few. Niemeyer firmly believed that it could be done, but failed to report any such favorable results. That the disease may be aborted there can be no kind of doubt, and in illustration I will give the first case treated by me with the intention of strangling the disease.

About the middle of April, 1872, I was called to see a tall, slim young lady, aged nineteen. Although she was not a strong-looking girl, she was most always well. I treated her for two weeks for a rather severe remittent fever. I discharged her from my care on the sixteenth day. I was hastily sent for two days later, about noon, but, being in the country, I did not see the patient until 6 P.M. The evening before, while the family were at supper, the patient got out of bed, slipped on a calico wrapper, and sat in a rocker by an open window, where a cold, blustery wind was coming in. At 5 A.M. the next morning she was taken with a severe chill, from which she did not react till between 9 and 10 A.M. By noon the friends realized that the patient was dangerously ill, and sent for me to see her. When I saw the patient, at 6 P.M., she was pillowed up in bed to help her distressed breathing. Both cheeks had a dusky blush on them, the left much more so than the right. The finger-nails were inclined to bluishness. The capillary circulation in the cheeks was extremely sluggish.

The respirations were 46. The pulse-beat was 130 to the minute, and showed a great loss of cardiac force. There was a troublesome, "choky" cough present. The shock to the nervous system was profound, and the patient said she knew she should never get well. On physical examination, nearly the whole of the left lung, posteriorly, emitted the crepitant râle. Hepatization had not yet taken place, so far as physical signs could be relied on.

I announced my diagnosis to the friends, and also informed them that unless the disease could be aborted the patient would undoubtedly die. I explained to them the hope Niemeyer held out to us, and urged them to accept the only hope. After a short family consultation I was asked to go ahead with "the new treatment."

A Mr. K., an old army nurse, and his wife took charge of the patient, under my direction. A large tub was brought into the room and filled half full of water. Into this lumps of ice were put and stirred until the thermometer registered 50° F. A thin, half-cotton-and-wool double blanket was wrung out of this water until it would not drip, and placed on a heavy all-wool double blanket, both being spread on the bed. The patient, being divested of all clothing, was placed in the middle of the blankets. The wet blanket was first wrapped around her, so

that no part of the body touched any other part, by tucking the blanket between the thighs and arms and body. The wet blanket was renewed every thirty minutes until the temperature came down to 104° F. A decided change took place. The very first blanket aroused the patient from her half stupor; her eyes became brighter, and the dusky hue—in some places almost livid—brightened very much. After the first commotion of respiration, the respiratory act became less frequent, and deeper and easier. The pulse was reduced eight beats the first fifteen minutes, and became perceptibly stronger.

As soon as the thermometer fell to 104° F. the wet blanket was allowed to go no farther down than the knees. The ice was resupplied all the time, and must have kept the water as low as 38° or 40° F. At 1 A.M. the thermometer was 102°, when I left the house. I left orders to only envelop the body in the wet blanket, and when the thermometer reached 100° only the chest, and when 98° was reached to stop the cold applications.

At 6 A.M. the thermometer stood 98° F. The patient was thoroughly dried and rubbed, received a milk-punch, and everything was made very quiet. She soon fell asleep. At this time the pulse was 60 and respiration 16 per minute.

During the night, from 6 P.M. until 12 M., 12 drops of fluid extract of veratrum viride were prescribed. Being somewhat averse to taking it, we did not urge it upon the patient,—a most fortunate circumstance.

At 10 A.M. I saw the patient again. She had just waked up from a refreshing sleep. The respirations and pulse were normal. All physical signs except a few moist râles at the base had disappeared from the left lung. Convalescence was uninterrupted.

Is this the only case I ever cut short? Not by any means. But there are many others in which I failed.

The next important question is, If we cannot abort the disease, is there any way by which we can limit the hepatization and passive congestion in the lungs?

This, I believe, we can do in all cases by the proper treatment.

But I will leave this subject for the present and revert to it again later on.

What shall we do to counteract the influence of the morbific agent on the nervous system, on the vaso-motor centres, on the respiratory centre, but, above all, on the cardiac centres? We know of no true antidote, so we must look for remedies that will powerfully counteract the influence of this poison.

To obtain our end we have a twofold task before us. The first is to becalm the nervous system, that shock shall do as little harm as possible,—to inhibit the action of the toxic agent on the dynamo-genetic centres. The second task is to create new nerve energy, to arouse the dynamic force-producing centres to an increased production of force, as we increase electric energy by adding new exciting fluid to our electric elements.

The first end we may gain by the use of narcotics. There can be no question as to the beneficial effect of opium or morphine in calming the nervous agitation that is too often present. I know, for I tried it myself.

I always combine belladonna or atropine with the opium or morphine. Extreme care and caution should be exercised in the administration of opiates. We should always remember that opium continued for any length of time benumbs and depresses the vaso-motor, respiratory, and cardiac centres. It lessens and perverts secretions, deranges digestion, diminishes the elimination of carbonic acid from the lungs and urea from the kidneys. Belladonna to some extent counteracts the injurious influence of opium, especially as regards the vaso-motor, respiratory, and cardiac depression.

These narcotics should be used hypodermically. Then you always get the effect of what you use. I use as small a dose of morphine as possible and as much atropine as I can within the bounds of safety and reason.

It is seldom that I use opiates beyond the first twenty-four hours, and only then for pleuritic pains when they cannot be controlled by other means, which seldom takes place. Codeine I like much better to calm the nervous agitation, or after morphine has been used for twenty-four hours; but the great difficulty has been to obtain a reliable article. While I caution against the too liberal and continued use of opium, it must be remembered that opium is better than great nervous disturbance or pain.

The treatment of typhoid fever by the Brand method has brought the mortality of that disease down from twenty to thirty-five per cent. to the units, and in some instances very low in the units at that. But not alone has it made a great and happy change in the mortality rate, but a still greater change in the course and duration of that dreaded disease. When treated by the hydriatic procedure from the beginning, we seldom, if ever, get that classic picture that authors have vied with each other to portray, so beautifully brought out by Sir Thomas Watson and Trousseau,—a dry, red tongue, sordes on the teeth, extreme adynamia, a clouded or obscured intellect, muttering, low delirium

subsultus, and not infrequently involuntary alvine evacuations, etc., etc. The Brand method has changed all this. It prevents the extreme adynamia, it prevents the profound and deleterious nutritional changes, shortens the course of the disease, and hastens convalescence. How does the simple application of cold bring about such mighty results? Does the simple abstraction of supernatural heat do all this? Then why not apply our cold until we bring the heat down to normal, and keep it there? But experience has taught us that this would be fatal in a very short time. Then it cannot be that the simple abstraction of heat, or keeping the temperature down to a certain point, is the only factor in the beneficial results. There is another influence in the Brand treatment which has received very little consideration—by the majority of physicians none—that is as important (if not more so, and which must never be forgotten) as the abstraction of heat. Let us briefly examine this latter influence physiologically and therapeutically, and see if it is not just what we want in the treatment of pneumonia. The antithermic qualities of hydriatic treatment in pneumonia we will notice later. "Through the application of high or low temperature, therefore different temperatures, on the living, warm-blooded body, we can produce changes in the nervous system, circulation, respiration, in the muscular system, in the secretions and excretions, in the cellular life, in the calorific process, and, it is no exaggeration to say, all vital processes are influenced thereby. . . . That it is positively the nervous system and innervation that are first of all influenced by different temperatures and the accompanying mechanical processes, there are countless direct and indirect proofs.

"The rapidly restoring power of transitory cold baths, the cold douche, or cold bathing for those that are tired or exhausted, the agreeable sensation and animation that follows all cold ablutions are all ample proofs. The rapid restoration of persons in a faint by besprinkling them with cold water, the nerve-inciting and shock-producing power of cold affusions or plunge-baths in the soporific or comatose"* are additional proofs.

The restoration of neurasthenics when all medicinal agents, including electricity, had failed; the rapid filling up of anæmics with rich, healthy blood, where climate, good diet, and plenty of iron and other tonics had failed to benefit; the success of cold baths or cold douches, are too well known, and are only mentioned here to direct attention to the powerful impression that can be made on the nervous system and on nutrition by the use of a powerful thermic irritant action. With each application of cold, whether it be in typhoid fever, in pneumonia, or in any other acute febrile disease, we have a shock or nervous incitement that is in proportion, other things being equal, to the difference existing between the body heat and water. When the cold strikes the body surface it sends a thermo-dynamic thrill through every axis-cylinder, in every nerve that ends in the cutaneous surface, to the central nervous system, to the spinal cord, the brain, and the vaso-motor centres. In these central organs new force, new energy, is created, and this dynamic force is reflected to all the organs, to all the tissues, and to all the cells. All the secretory organs are stimulated and more healthy secretions are poured forth; the excretory organs are stimulated, and the morbifical agent and the increased tissue wastes are carried out of the system. The respirations at first become more frequent and deeper, but afterwards slower and deeper; more oxygen is taken in and more CO_2 carried out. The circulation through the lungs is accelerated, the blood is hastened to the left side of the heart. The left ventricle contracts slower and more powerfully, and hence a more complete filling of the arterial system, an accelerated systemic circulation, and a higher state of nutrition. These are results we may expect; these are results that will be surely obtained if we apply our hydriatics understandingly, with precision and perseverance. The heart is especially benefited by the hydriatic procedure. Through it the cardiac motor centres are powerfully stimulated through the "thermo-dynamic" force communicated from the peripheral nerves. The contractions of the heart become slower (sometimes they are first accelerated for a short time), the systole is more powerful and complete, the heart completely empties itself and sends the current more swiftly through the arterial tree. The diastole is more complete; the heart, taking a longer rest, fills more completely, and thus increases the amount of blood in the arterial tree and accelerates the circulation through the lungs. The coronary arteries receive more blood, and the heart is more completely nourished. In cold water we possess a double-edged sword with which we can defend our patient's life.

As excessive temperature becomes a great element of danger we can bring into use the antithermic quality of hydriatic treatment, and to counteract the adynamia we can bring into use the thermo-dynamic quality. I cannot do better

* "Die Hydropathie," Winternutz, 2te Auflage, 1890.

in illustration of this than to report the following case: Babe, E., female, aged thirteen months; parents both healthy; babe has never been sick before; well nourished and large for its age. When I was called she had been sick nearly a week; mother was treating it with domestic remedies; lobular pneumonia extending nearly over whole of right lung.

The inflammatory process soon involved the whole of the right lung and attacked the left. The mother refused to have hydriatic treatment used. The patient grew rapidly worse. The temperature ranged from 103° to 104½° F. By the fourteenth day the patient was desperately sick. I asked that some medical man should be called in to advise with and help bear the responsibility, especially as I was not allowed to treat the case according to my best judgment. The father told me to take charge of the case and do just as I wished,—"as I would if the child were my own." The patient was about as follows: Respiration 80 and pulse 200 per minute; temperature 103° F.; lips cyanosed; great drowsiness; extreme prostration; feeble cough, with no expectoration; rattling in throat; mucus seems to be loose in bronchi, but the patient is too weak to bring it up. Physical examination showed that the catarrhal process extended pretty much all the way through both lungs. There was more or less collapse of lung-structure through both lungs. The case looked hopeless. The child was stripped and held up by the nurse by taking hold of both humeri near the shoulder-joints. She was held over a tub. With a Davidson syringe I directed a stream of ice-water against the lower part of the occiput, bringing it rapidly down the spinal column. It is needless to tell the reader that the drowsiness disappeared immediately. Deep and spasmodic-like respirations ensued; quite a quantity of mucus came from the bronchi and was swallowed; the lips lost their blueness like magic; the surface where cold water was applied became red. The child struggled and partially succeeded at a scream. When the interrupted stream went on each time the whole thorax was raised and the ribs could be seen to rise wonderfully. This was not kept up over seven or eight seconds, when the child was given a few minutes' rest, after which the ice-water was used on the front of the chest for five or six seconds. It was then thoroughly rubbed and laid between two soft woollen blankets. After from forty to fifty minutes the blueness of the lips began to return again; the respiration and pulse, which had been perceptibly lowered, again ascended. In an hour from the first treatment it was repeated, with the same favorable results. This was repeated every hour for twelve hours, during all of which time the kind friends of the family tried in every way to have the father stop the "cruel and inhuman treatment," and some threatened to have me arrested for cruelty to animals. The father stuck by the doctor and I stuck by the child. The pulse after twelve hours' work had fallen 50 beats per minute and the respiration 30. The cyanosis had all but disappeared. The drowsiness had disappeared, and some refreshing sleep had taken the place of it. After this the intervals of the hydriatic procedure were lengthened to two hours, then to three. In thirty hours the ice-water was changed for water of a higher temperature. The patient recovered completely, and those people who wanted me arrested called it "raising the dead." After the use of the ice-water was commenced the temperature was no longer a matter of consideration. The great object was to penetrate the filled-up and collapsed air-cells with air, to bring its oxygen to the pulmonary circulation, and to arouse the nervous system. The objection may be raised that this was not a case of croupous pneumonia. But this is no objection whatever. The thermodynamic effect can be produced in all warm-blooded animals, under the proper conditions, in all acute febrile diseases, but more especially in those where there is a toxic agent acting deleteriously on the nervous system.

What I wish to have clearly understood is that in the treatment of pneumonia we have in the hydriatic treatment two clearly defined curative agencies. Sometimes we need one the most, and sometimes the other. When the nervous system does not suffer greatly we can bring down the temperature speedily and effectively with very little or no nervous perturbation; on the other hand, when the temperature is not an element of anxiety, but the adynamia threatens danger, we can produce the most powerful nerve stimulation, arousing all the nerve centres to a production of nerve force. While I have treated this subject somewhat exhaustively, I hope it may not prove exhaustingly tedious to the reader. The principle is on a firm foundation,—on the rock of well-established physiological facts,—and needs only intelligent and practical therapeutic application to demonstrate its great utility. Wherever it has been used the mortality has been lowered, and I have no hesitation in saying that, were this treatment used in pneumonia as it is in typhoid fever, the mortality scale, instead of being up in the twenties and thirties, as typhoid fever used to be, and is yet when treated on the old method,

would have kept pace with typhoid fever in the downward scale until it also would have passed over on the unit side.

Having discussed the principles of hydriatic treatment in pneumonia, we will go on to discuss some of the practical points in its application, as well as other important therapeutic measures and agents that will greatly assist us in bringing about a favorable issue.

(To be concluded.)

THE TREATMENT OF INOPERABLE CANCERS BY THE INTERSTITIAL INJECTION OF SALICYLIC ACID.

Among the methods proposed for the treatment of inoperable cancers, this one proposed by BERNARDT (*Cent. f. Gynaec.*) has produced extraordinary results. Not only were the local symptoms (hemorrhages, sloughs, odors, pains, etc.) alleviated and sometimes dispersed, but the general condition of the patient showed marked improvement after a few days. These results led Tofius, of Moscow (*Rev. Méd de Moscow*), to apply these interstitial injections in seven of his cases, with results which he considers far superior to any other method of inoperative treatment. The injections of salicylic acid produce a rapid diminution in the amount of hemorrhage, and sometimes its complete cessation, and also of the sloughing, lessening the pain, and producing a gain in the general condition of the patient, and finally a retarding in the progress of the disease. These results were obtained by the injection every four or five days, after careful antisepsis, of 1 to 4 cubic centimetres (15 minims to 1 drachm) of a six-per-cent. alcoholic solution of salicylic acid, repeated seven to thirteen times.—*Lyon Méd.*, February 10, 1895.

RESEARCHES ON THE ELIMINATION OF CERTAIN THERAPEUTIC AGENTS BY THE GASTRIC MUCOUS MEMBRANE.

After a long and carefully conducted series of experiments made upon a dog having a gastric fistula, and on other animals,—dogs, cats, rabbits, guinea-pigs, and rats,—with or without previous isolation of the stomach between two ligatures, BINET (*Rev. Méd de la Suisse Rom.*, February 20, 1895) gives the following as his results in the study of the following substances in the stomach after a subcutaneous injection.

Alkaline bromides and iodides pass easily into the contents of the stomach; the presence of the iodides especially may be detected many days after the injection. Chlorides pass less easily and only after the use of strong doses.

After subcutaneous or intravenous injection of tartar emetic the presence of antimony in the stomach has not been clearly proved in the contents of the stomach, either by Marsh's method or by electrolytic methods; the results are equally negative or doubtful as regards the intestinal contents. Among the metals, lithium and magnesium have been found in very small quantities; strontium has not been found.

Organic bodies, such as salicylic and gallic acids, guaiacol, antipyrin, and chloral, have usually been absent; the others have shown but slight traces.

The alkaloids—morphine, quinine, strychnine, atropine—only pass in very small proportions. Slight traces have been obtained by general tests, but the quantities isolated were too small in the majority of cases to give clearly the special reaction. With a non-fatal dose of morphine, repeated lavages of the stomach do not modify the intoxication to any marked extent.

To summarize, in those cases in which experimentation has been employed, the gastric elimination of agents introduced subcutaneously or by intravenous injection has been of little importance, or even in some cases *nil.*

CONCERNING RICINE.

OUCHINSKY, in studying this alkaloid (*Méd. Sci.*, January, 1895), describes it as a toxic substance contained in the castor bean; it is found in the oil prepared from them when the process has been imperfect. Stilmark places this substance among the albuminous ferments of the order of phytalbumoses; the author concurs in this opinion. On cold-blooded animals ricine has but little action; warm-blooded animals are very susceptible to it, a very small dose proving fatal. It acts more rapidly when exhibited by the stomach than when injected subcutaneously. The temperature rises to 104° F., to fall again below normal. The heart continues to beat after the cessation of respiration. At the autopsy the intestinal mucous membrane is hyperæmic, dotted with punctiform hemorrhages; the liver, kidneys, and spleen are gorged with blood; the intima of the blood-vessels show many spots of hyaline degeneration.—*Rev. Int. de Méd. et de Chir. Prat.*, February 25, 1895.

The Therapeutic Gazette

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Leading Articles.

THE PHARMACOPŒIA AND THE LIST OF DRUGS.

THE professions of medicine and pharmacy in the United States at the present time have comparatively little interest in the discussion of what drugs should be made official in the United States Pharmacopœia, largely because of the recent publication of the Pharmacopœia of 1890, so called. But in England, where the revision of the Pharmacopœia will occur during this year, these two professions are much exercised over the changes which have been suggested and proposed. This is evidenced chiefly in the leading articles which have been written during the last few weeks by eminent medical men or pharmacists for the *British Medical Journal.* Among these authors are Drs. Lauder Brunton, Whitla, and David Howard.

Again, the New York Academy of Medicine has recently had a discussion on the subject of materia medica and therapeutics, and the results of the comparison of the views expressed by every one concerned, here and abroad, are that the Pharmacopœia is at the present time a refuge for many drugs or pharmaceutical products which, without its official sanction, would speedily pass out of the recollection of the practitioner, because he can find no therapeutic advantage in their application.

Do what we will to render the preparation and introduction of medicinal substances ethical, the nature of things forces us to recognize the fact that the profession will be provided with semi-proprietary compounds so long as there are manufacturers to produce them and careless or ignorant physicians to employ them. It is also evident that to arrange these products in any one list is impossible, and, again, that it is impossible for either physician or pharmacist to remember the special names of many of these compounds. They form what might be called a third group of pharmaceutical preparations, the true preparations of the United States Pharmacopœia taking the first position, the various pills and solutions made up on the lines of definite published formulæ taking the second position.

It is not our intention to enter into a discussion as to any of the remedies which should be discarded in the third class, or, for that matter, in the second class, since, as they do not enter the official Pharmacopœia, they have but a temporary existence, as a rule. It is rather our intent to point out the fact that the Pharmacopœia itself contains preparations which are absolutely useless in practical medicine, or, if they are not useless, do not afford us any better results than could be reached by other preparations much better known and more frequently employed. Thus, under the heading of iron, there are a large number of substances, generally compound, which do not possess, so far as we are aware, any advantages over single products combined in pill form for each individual patient through the order of the physician. Among these may be mentioned iron and ammonium tartrate, which contains very little iron, and has no advantage except its great solubility, which may be advantageous from the stand-point of the pharmacist, but is disadvantageous from that of the physician, since it is well known that the insoluble preparations of iron, in the great majority of cases at least, prove more therapeutically active than do the soluble. Similarly, the citrate of iron and quinine possesses no advantage whatever over the extemporaneous pill composed of the quantities of quinine and iron

which the physician desires to administer to his patient. On the other hand, it prevents him from using his best judgment as to the amounts of each medicine to be given to each case. The soluble iron and quinine citrate has similar objections to it, and the linking together of the citrate of iron and strychnine is akin to the placing in double harness of the hare and the tortoise. Long after the strychnine has ceased to exert its influence, the iron begins to accomplish its therapeutic purpose in the body; and this is a dangerous preparation, in that, under the guise of the comparatively innocent substance, iron, strychnine may enter the body in considerable quantity. But of all the preparations of iron which are of little value, the ferrocyanide heads the list as being utterly useless and inert, its only advantage apparently being, according to Hayem, that it may be taken in enormous quantities for indefinite periods of time without doing the organism either harm or good. The hypophosphite of iron is also a ridiculous preparation having no therapeutic properties over ordinary iron, but leading the ignorant practitioner to its employment with the idea that he is also administering to his patient phosphorus. We have also been unable to discover that the lactate of iron possesses any advantages which give it a right to mention in the Pharmacopœia, for the stomach that rebels at the ordinary reduced iron will, as a rule, also rebel at the lactate. The soluble phosphate of iron probably possesses no peculiar therapeutic advantages, although the pyrophosphate, because of its richness in iron, may be employed with advantage. Similarly, the valerianate of iron possesses so little value as to be a burden upon the long list of official drugs, since valerianic acid possesses almost no therapeutic properties, and even valerian itself has to be given in full doses to produce any sedative influence upon the nervous system. Similarly, lithium salicylate possesses no advantages which give it a right to entrance into the Pharmacopœia. Indeed, there is every reason to believe that lithium preparations, while theoretically of value, are practically useless, except when employed as a basis for the introduction of other drugs into the economy. In this particular instance lithium is peculiarly inadvisable, since it disorders the stomach much more than does sodium, and therefore salicylate of sodium is infinitely to be preferred in medicine. We are also unable to see why at the present time tobacco should remain an official drug. The dioxide of manganese and the sulphate of manganese might also be readily excluded.

It is not necessary to go on naming substances which, it seems to us, are far from deserving a right to the honorable distinction accorded to them. The fact remains that the Pharmacopœia list to-day contains substances unused and without value. In many instances we believe that their retention or recent insertion in the Pharmacopœia has been based upon the supposition that they were of use, without their having been given sufficient trial by a large number of practitioners. In any event, one thing must constantly impress itself upon the mind of the careful clinical therapeutist, and that is that a few drugs will produce all the results which his daily practice will require, and that, beyond a certain limited list, the physician who employs many drugs fails to get good results, and runs hither and thither through the materia medica, seeking a drug so powerful for good that it will produce beneficial results, even if he is not able enough to discover the indication which calls for it.

At the present time we believe it to be a just statement that the Pharmacopœias of the United States and Great Britain depend for their scientific status far more upon the work of the pharmacist than upon that of the physician, and the introduction of useless remedies must be laid to the door of the medical profession which creates a seeming demand for them rather than to the threshold of the true scientific pharmacist. We doubt not that there are many who believe that they obtain first-rate therapeutic results from the employment of some of the preparations which we have criticised, but we are convinced that these preparations should form a list of secondary importance, either in the Pharmacopœia itself or in an appendix, rather than rank with the standbys of therapeutic resource.

DOES ETHERIZATION CAUSE CROUPOUS PNEUMONIA?

WE have called attention in recent numbers of the THERAPEUTIC GAZETTE to the fact that ether may produce secondary effects which are frequently credited to intercurrent diseases following the operation rather than to the administration of this anæsthetic. In an interesting paper upon this subject in the *Boston Medical and Surgical Journal* for March 28, 1895, Prescott details two cases in which acute croupous pneumonia followed etherization. In discussing the question as to the ether being the exciting cause, he is careful to point out that in recording instances of this kind we

must take care to carefully separate the instances of broncho- or catarrhal pneumonia from the true croupous variety. Every one with experience has probably seen some cases in which broncho- or catarrhal pneumonia followed etherization, but Prescott states that in looking over a large series of records he found that croupous pneumonia was a very extraordinary sequela.

We can readily understand why it is that broncho-pneumonia and catarrhal pneumonia so frequently follow etherization, since the chilling of the lungs as well as the entire body in association with great irritation of the mucous membrane of the bronchial tubes and smaller air-passages readily results in congestion, stasis, and a certain amount of consolidation. The frequency with which croupous pneumonia is produced by etherization must depend almost entirely upon the presence or absence of the infectious micro-organism which is now recognized as the cause of this disease. While at the present time clinicians are practically in accord that exposure to cold itself cannot alone produce pneumonia, they also believe that the exposure to cold may so decrease the vital resistance of the patient that the micro-organism of pneumonia, which was formerly unable to produce a pathological process, finds a suitable field for its growth and multiplication. In an earlier number of the GAZETTE we called attention in a leading article to the very great loss of bodily temperature which is apt to ensue during and after the administration of ether, and it seems to us self-evident that both the broncho-, catarrhal, and croupous forms of this disease might in a certain proportion of cases be prevented by the maintenance of bodily heat during, as well as after, the operation. Even if this be done, the irritation of the respiratory passages by the vapor of the ether may be quite sufficient to cause the irritation which opens the way for the infectious process.

The answer which Prescott believes is the correct one to the question which heads this editorial is that ether very rarely acts as the exciting cause of acute lobar pneumonia, and therefore even when this disease occurs it must be regarded rather as a coincidence than as the outcome of cause and effect.

STRYCHNINE IN POISONOUS BITES.

IN this number of the GAZETTE will be found in the Progress columns the report of a case of tarantula bite treated successfully by strychnine, according to the method of Mueller, of Australia, of which we have published reports so frequently. We call attention to this point for two reasons: first, because the case is of great interest; and, second, because it illustrates the practical value of the THERAPEUTIC GAZETTE to the physician. It was in this journal that the suggestion as to treatment was found and the patient's life was saved. We doubt not that the practical points which we endeavor to present to our readers many times repays them for the small cost of the GAZETTE.

CARDICENTESIS.

THOUGH puncture of the heart for therapeutic purposes cannot be claimed as a new procedure, since it is stated that this is one of the methods of treatment employed by the Chinese, and though there have been occasional reports of the remarkable effects which can, at times, be expected from this procedure, it has not as yet been generally recognized as a justifiable method of treatment or as conveying in itself enough promise of help to make it worth trying in extreme cases. With the increased daring engendered by growing operative skill and greater clinical facilities, and fostered by laboratory experiments, surgeons have not hesitated to intervene for the relief of symptoms dependent upon disease or injury of the heart or its envelope. It has been proved by hundreds of reported cases that a wound of the heart is not in itself necessarily fatal; that death is commonly due, not to the heart injury, but to the effusion of blood or serum into the pericardium and the consequent interference with the heart's action from mechanical pressure. Where this effusion has been limited, life has been prolonged or exceptionally recovery has taken place.

Thus, the *Lancet* of 1879 reports the case of a man who lived fifty-four days after having received a shot wound of the left ventricle. Church has collected from the Index Catalogue of the Army Medical Museum twenty-two cases of direct injury to the heart, all of which lived over three hours; seventeen lived over three days, one died on the fifty-fifth day, and there were three well-authenticated recoveries.

Purple reports a case of wound of both ventricles, corroborated by post-mortem examination made nine years afterwards. Hare has collected a number of such cases, and has shown by laboratory experiment that puncture of the heart is in itself not necessarily fatal. The

logical deduction from these cases is, that, provided puncture of the heart accomplishes good results, it can be undertaken without very great fear as to its being immediately fatal. Moreover, as Church observes, since death is usually due to pericardial effusion, incision and drainage of the pericardium may sometimes save life; and since the heart has shown itself more tolerant of mechanical interference than is generally believed, it may become amenable to a variety of conservative or life-saving operations.

Dalton has recently reported in the *Annals of Surgery* his success in treating a stab of the heart. The primary symptoms were not serious, and an antiseptic gauze dressing was applied. Rapid pulse, rise of temperature, and shortly the development of a hurried pulse suggested that further interference was necessary. When the dressing was removed there was an escape of blood and air. An eight-inch incision was carried along the fourth rib, a portion of this bone was resected, the bleeding intercostal artery secured, and the pleural cavity emptied of clotted blood with which it was well filled. On retracting the edges of the wound a half-inch opening into the pericardium was discovered. This opening was sutured with catgut by means of long forceps and a needle-holder. The pleural cavity was irrigated and closed without drainage; the patient recovered.

Aspiration of the pericardium, or pericardicentesis, has been so often and so successfully employed, at least in so far as immediate relief of symptoms is concerned, that it is now a recognized surgical procedure. Cardicentesis, as proposed by Westbrook, of Brooklyn, was performed as a means of giving more immediate and permanent relief to an overburdened right heart than could be obtained by venesection. He favored puncture of the right auricle, the needle being driven into the third interspace to the right edge of the sternum.

Roberts, Dana, and others advocate puncture of the right ventricle. Watson, after an experimental study of the subject, states that puncture of the heart, especially the right ventricle, stimulates muscular contractions, and may be advantageously employed in the treatment of chloroform narcosis. The best results are obtained when abstraction of blood from the cavity is combined with the stimulating effects produced by the entrance of the aspirator-needle. Puncture of the right ventricle is a safe and more efficient operative procedure than puncture of the right auricle; a chief reason for this being that, since the wall of the auricle is thin, there is some danger of blood escaping.

Sloan (*Edinburgh Medical Journal*, No. clxxvi.) reports an unusually successful case of cardicentesis. The patient suffered from an attack of erysipelas. Following this there was an acute outbreak of rheumatic fever, with peri- and endocarditis. Symptoms of pericardial effusion were well marked. The heart-failure was progressive until the pulse was uncountable and hardly to be felt, the face livid, pale, the body bathed in cold perspiration, and the changing, startled expression of impending death noticeable. On the injection of 30 minims of ether the pupils dilated and the pulse became still more feeble. The ether injection was repeated. Shortly after the heart and respiration stopped. Sloan at once plunged the needle of his aspirator into the fourth interspace, about half an inch to the left of the sternum and a little below the left nipple. About ten ounces of pure blood flowed rapidly into the bottle of the aspirator, and then suddenly stopped. It was evident that the ventricle had been penetrated. The canula was slowly withdrawn, the nurse being told that the patient was dead, when the heart gave several irregular contractions and then began to beat. For one hour after this the patient would shriek at intervals, would half cough, and vomit quantities of frothy mucus, the countenance becoming alternately ashy gray and then purplish in hue. The pupils were dilated to their fullest extent, the running pulse uncountable, and the patient had every appearance of one dying asphyxiated. Morphine was administered and a drachm of ether was injected. In an hour the patient was perfectly comfortable, and went on to slow but complete recovery.

Sloan states that if cardiac tapping can be done successfully by accident, there are necessarily cases where it should be tried as a deliberate remedy. In all cases of asphyxia where the heart's action is stopped he advises cardicentesis, followed by artificial respiration. Thus, in cases of suffocation by drowning, accidental hanging, carbonic oxide, etc., or even in cases of still-birth, some good effect might follow. In cases of chloroform asphyxia he states that it is worth trying, and in some cases of heart affection, of pneumonia, and even of bronchitis, where all other means have failed and where the patient is evidently dying of engorgement of the right side of the heart, a possible chance of saving life may be lost were cardiac aspiration not attempted. It should be remembered that this operation is practically the only one which is likely to be of avail when air has entered the veins. In this case, however, the needle should enter the right auricle.

Although many recorded cases show that the heart may be punctured without causing death, it must be borne in mind that the great majority of such injuries prove shortly fatal. In considering this subject it must also be remembered that probably every successful case of cardicentesis has found its way into literature, while certainly the large majority which were either futile or distinctly hurtful are known only to the operators. In one case at least death has resulted from puncture of the coronary artery. It is easy to fancy similar injury to the internal mammary, although no such case has been reported. It can readily be imagined that a misdirected puncture, even with the finest needle, might be instantly fatal, while the possibility of escape of blood from the heart-cavity into the pericardium is by no means remote, unless a very small instrument is used.

The whole subject has been traversed time and again, and most carefully, but as yet there is not sufficient ground to justify this operation, save in extreme and unusual cases.

THE ANTITOXIN TREATMENT OF TETANUS.

FOR the last year the THERAPEUTIC GAZETTE has endeavored to follow the laboratory work and clinical trials of tetanus antitoxin. There is now enough evidence accumulated to justify the surgeon in employing antitoxin injections, since these have repeatedly been shown to be free from toxic effects, and in so far as a limited experience on man is conclusive, have demonstrated their power of checking the disease. Recently several cases of tetanus thus treated have been reported, and in three patients recovery has followed. In one under the charge of Marriot the disease began six days after the injury, and assumed the type which is usually fatal. The injections of Tizzoni's antitoxin were followed by improvement somewhat more rapid than the original experimenters with the drug have led us to expect.

The true value of this method can only be proved by the report of a comparatively large number of cases. In the mean time, however, since the treatment promises far more than does any other with which the surgeon is armed, there should be a source of supply to which American surgeons can have recourse. An effort to obtain the antitoxin upon the part of a Philadelphia surgeon within the last six months, for the treatment of a case of fulminant tetanus, apparently showed that none was to be had in this country.

Reports on Therapeutic Progress.

EXPERIMENTAL RESEARCHES ON CERTAIN ACCIDENTS DURING ANÆSTHESIA.

In essaying to confirm the results obtained by Goltz in his observations on guinea-pigs, that percussion upon the exposed intestine of a subject under anæsthesia results in arrest of cardiac action, as has been observed in men and dogs having severe abdominal lesions, GUINARD (*Bull. Général de Thérap.*, November 15, 1894) found that in general his observations were not exact, and that to obtain valuable results it is necessary to operate on a very large number of animals, as there are present many uncontrolable factors.

During these studies he was led to believe that the reflexes arising from irritations in the abdominal cavity are able not only to produce reflexly the arrest of the heart, as Goltz had determined, but also to produce a suspension of respiration. He therefore was led to study the question whether in an anæsthetized subject irritation of the inflamed peritoneum can reflexly cause inhibition of the respiratory centres. *A priori* there is nothing absurd in such an hypothesis. There are numerous peripheral irritations and excitations of sensitive nerves that may suspend certain functions, and in particular inhibit the respiratory and cardiac centres. A number have been known for a long time in connection with anæsthesia, and it is easy to believe that the irritation of an organ rendered hyperæsthetic by a grave injury may be the origin of a reflex stimulus.

In all his experiments the arrest was one of respiration, and not of the heart. The respiratory centres in all anæsthesias are more liable to fail and suffer arrest sooner than the cardiac, and consequently the respiratory centres, already depressed by the action of the anæsthetic, are in a favorable condition to be inhibited by reflex stimuli, and more especially as they are depressed by a generally grave condition.

These latter factors are of great importance in considering the reflex action during anæsthesia for grave visceral disease. In the use of anæsthetics in these cases,—especially those of hernia, and particularly gangrenous hernia,—the general condition of the patient should be studied, and cases of general depression or in a state of collapse should be looked upon as particularly predisposing to the dangers of anæsthesia and to reflex syncope of peripheral origin.

In considering these conditions, which anæsthetic is the least dangerous in the cases?

The author, in his experiments, in cases where the dogs were particularly depressed, anæsthetized many with ether without accident; the same was not true of chloroform, and he is convinced that, other things being equal, the action of this drug requires more watching. The conditions of administration were absolutely identical, but it is without doubt true that etherization is less dangerous than chloroformization, and that the death of an animal depressed by a grave abdominal lesion is more rapid, more sudden, and more irremediable with chloroform than with ether.

The results, however, of these observations the author does not believe justify any judgment of this or that anæsthetic; the comparison is only applicable to the case in hand, and allows him to repeat that the employment of any anæsthetic, no matter what, is full of dangers in case of herniæ, but that where there is a chance of accidents, they occur more rapidly and surely with chloroform.

CHEMICAL DYSPEPSIA: DIAGNOSIS AND TREATMENT.

The different forms of dyspepsias are divided by MAIN (*Rev. Int. de Méd. et de Chir. Prat.*, December 10, 1894) into three groups: 1, the nervous dyspepsias; 2, the motor dyspepsias; 3, the chemical dyspepsias. Frequently the three forms are found in conjunction; it is not rare to find a patient having both a chemical and a motor dyspepsia concurrently.

The author in this paper studies the chemical form alone, and gives his treatment as follows: In the presence of a dyspepsia due to hyperhydrochloric acidity the treatment should be at first directed to the regulation of the diet and then to therapeutic measures. In this form of dyspepsia one must suppress three foods which tend more than others to the production of secondary fermentations. These are bread, alcoholic drinks (red wine in particular), and all fats and butters. The only bread allowed is a small quantity of crusts and rusks; tender meats finely cut, a little fish, not rich, and very fresh, eggs, soups, vegetables, and cooked fruits are allowable. Milk is seldom retained, therefore it is better not to give it pure. Milk diet, on the contrary, and creams are favorable foods. One is often obliged to give all kinds of vegetables chopped up, to avoid overloading the stomach with particles of cellulose. One may say that hyperhydrochloric acidity with stasis is often the triumph of the vegetarian diet, such as M. Dujardin-Beaumetz has so well established.

The patient should refrain from eating seasoned dishes, high meats, game, shell-fish, crustaceans, and strong cheese, and as well cabbage. With regard to the drink, we have already said that all alcohols, and especially red wine, are to be avoided. One should prescribe white wine much diluted with mineral water, or, if preferred, hot drinks, such as an infusion of chamomile, weak tea, or orange-flower water. The amount of liquid taken at any meal should not exceed eight to ten ounces.

Such is the basis on which the diet of these dyspeptics must be established. The medicines recommended are numerous. Those that seem most efficient are: first, alkalies in small doses; second, hydrochloric acid; third, bitters; fourth, antiseptics.

Given in small doses before the meal, the alkalies increase and quicken the secretion of hydrochloric acid. Thus, a quarter or half an hour before lunch or dinner 4 grains sod. bicarb., or, if preferred, three-quarters of a glass of mineral water containing carbonate of sodium (Vichy-Célestins-Vals) may be taken. The hydrochloric acid appeals directly to the nature of the dyspepsia.

M. Hayem recommends a one-per-cent. solution of hydrochloric acid in distilled water, a tablespoonful to be taken two or three times a day in half a glass of sweetened water.

Bitters, although their action is disputed, nevertheless afford ameliorations: nux vomica, quassia, colombo, and also ipecac. Generally they are given in the form of tinctures, to be taken in water before or after meals.

The gastro-intestinal have as their purpose the prevention of fermentation and the production of organic acids. There are many antiseptics and many methods of administration. The author uses the formula of Dujardin-Beaumetz, giving before meals one of the following:

℞ Salol,
Bismuthi salicylas,
Sodii bicarb., of each, ʒiiss. M.
Ft. in cap. no. xxx.

Or,

℞ Salol,
Benzonaphtol,
Sodii bicarbonatis, of each, ʒiiss. M.
Ft. in cap. no. xxx.

It should not be forgotten that an atony of the intestines is generally associated with this form of dyspepsia, so that mild laxatives should be prescribed. Then the general condition of the subject—often neurasthenic—in-

dicates the use of hydrotherapeutic measures, massage, and electricity. In place of the latter the hydro-mineral cure may be considered. People suffering from hyperhydrochloric acidity derive benefit from the double action of the Vichy and Châtel-Guyon. Under their influence the digestion grows better and the gastric secretion becomes sufficient.

The large amount of carbonic acid contained, their temperature, and their composition stimulate the mucous membranes of the stomach, while at the same time the intestines regain their normal function. Persons suffering from this form of indigestion accompanied by intestinal atony should be sent to Châtel-Guyon.

One may say that very often the diagnosis of chemical dyspepsia is easily formed by observation of the functional symptoms. The efficacy of treatment is, however, the best criterion of the exactitude of the diagnosis. But sometimes an error is made, and it becomes necessary to drink large quantities of water, which is always disagreeable to the patient, but in difficult cases is sometimes necessary.

THE TREATMENT OF TUBERCULOUS MENINGITIS.

Of all tuberculous affections, Hirschberg (*Bull. Gén. de Thérap.*, November 15, 1894) considers this the most formidable. Cases of spontaneous recovery are rare, and the diagnosis is doubtful in many cases so reported. The treatment of this condition by the ordinary measures employed in tuberculosis is unavailing, since it is the inflammation which accompanies and precedes the formation of the tubercle that destroys the patient. It is the cerebral compression produced by the increased intracranial pressure which is the most marked symptom, and which produces such ravages in the nutrition of the delicate cerebral tissues that death is inevitable. Therapeutic agents have always been directed against this intracranial pressure. Vesications on the head and neck, leeches over the mastoid, and calomel have had little effect. It has been proposed to diminish the intracranial pressure by puncturing the spinal canal in the lumbar region and, by introducing permanent drainage, thus to drain the cerebro-spinal fluid. This method has not as yet been sufficiently studied, but the author believes, *a priori*, that it has but little rationality to justify it, since the communication between the cavities of the cranium and spinal cord are not, in this condition, the same as they are under normal physiological conditions.

The author believes that the only rational method is to open the cranial cavity,—*i.e.*, trephining followed by drainage. Besides diminishing the intracranial pressure, the trephining may be considered a method of treatment, for the indications are as reasonable for the treatment of tuberculous meningitis by opening and draining as for tuberculous peritonitis; and although the explanation of the rationale of that treatment is yet unexplained, it is considered rational. The author would favor this treatment, as do many English authors.

Although tuberculous meningitis occurs most frequently in children, where it is usually a basilar meningitis, it also occurs in older persons, and is usually in these cases a meningitis of the convexity, while in other cases the symptoms are more localized at the outset, such as paralysis, aphasia, and partial epilepsy, which are followed by meningitis.

The point of application of the trephine should consequently be governed by these localizing symptoms if they are present. It is necessary for the success of this method of treatment that it should be begun in time. It is a fact that should be understood clearly, that when the diagnosis of tuberculous meningitis is too clear, it is too late to trephine; for when the patient is completely comatose, there is no chance of saving him.

The differential diagnosis between this and other conditions producing like phenomena is sufficiently understood to make delay unnecessary. The author would insist, however, on the utility of the examination of the eye-grounds in every case of suspected meningitis. A sign that is pathognomonic of increased intracranial pressure is a descending crossing optic neuritis (Staunungspapille). This is a sign of great importance, and is never wanting in cases of tumors rapidly developing in the brain, or in acute meningitis.

The most essential point is to operate in time; the next, the point at which to operate. The author would advise the use of the method described by Wallis Ord and Waterhouse, in the classical form or basilar meningitis; but in those rare cases where symptoms of localization have been present, the trephine should be placed over the localized area.

ANTISEPTIC AND RECTAL TREATMENT OF TUBERCULOSIS.

The absorption of antiseptic medicaments by the rectum, in cases where there is intolerance by the stomach and hypodermic medica-

tion is objected to by the patient, has been conceived and put into execution by M. J. SIMON (*Journ. des Praticiens*, January 26, 1895). By this method the volume of the vehicle is reduced to a minimum. The following is the technique.

1. Formula of Lotion.—For every twenty pounds of the patient's weight:

℞ Pure beechwood creosote, .5 milligramme (.077 gr.);
Salol, .40 centigramme (6.17 gr.);
Iodoform, .40 centigramme (6.17 gr.).
Dissolve in pure olive oil, q. s. for 10 cubic centimetres (fʒii ♏xx). M.
Sig.—For one daily rectal injection.

2. Mode of Administration.—A soft-rubber catheter eight to twelve inches in length, previously well washed and oiled. This is attached to a glass syringe holding about four drachms. Before injecting, warm the lotion over a vapor-bath; during the injection introduce the catheter as far up as possible; after the injection the patient should remain in a reclining position for some time. The dose of creosote is proportional to the weight of the patient. It ranges between 1.5 grammes and 3 grammes (22 grains to 45 grains).—*Lyon Médical*, February 10, 1895.

PHENOMENA OF ERGOTISM FOLLOWING THE USE OF HYPODERMIC INJECTIONS OF ERGOTINE IN A CASE OF UTERINE FIBROID, WITH RECOVERY FROM THE TUMOR.

CHATIN (*Bull. Gén. de Thérap.*, October 30, 1894) reports an interesting case of a patient who came to the hospital suffering from asystole. During her stay a tumor was discovered in the abdomen reaching nearly to the umbilicus. It was situated in the median line, globular, smooth, mobile, and not painful. The patient gave a history of pains in the lumbar region and weight in the abdomen. For a year previously her monthlies had been regular and very abundant, lasting for many days, with frequent profuse hemorrhages.

The patient returned subsequently with a second attack of asystole, when the tumor was found to be of the same size, and a little over a month thereafter treatment of the fibroid was begun by hypodermic injections daily of 8 minims of ergotine (Lamaute), a dose which corresponds to 15 grains of ergot. This treatment was well supported for ten days, when it had to be suspended for twenty days on account of the asystole. On its renewal it was continued for twenty days. At this time—that is, at the end of thirty injections of 8 minims of ergotine—the fibroma had diminished notably in size, but the phenomena of ergotism had come on in the last ten days. The patient complained of pain in the limbs, especially at night, and of a permanent sense of engorgement in the fingers and toes. She said she did not feel her fingers any more; that they were like cotton. This sensation of engorgement was painful, since it was accompanied by intense tinglings. Contrary to what one might expect, the patient was not paler than normal, but the face and extremities were congested, and the tint was slightly livid. If there was arterial vaso-constriction, there was a venous stasis which produced this peculiar condition.

In addition the patient suffered daily at about ten in the morning, for four days, with intense chills similar to those of malaria. She complained of a sensation of cold, which was accompanied by shivering, muscular spasms, and chattering of the teeth. These chills were of about an hour in duration, but were not accompanied by any elevation of temperature. There were no other functional or systemic derangements. The action of the heart was seemingly benefited. The patient complained of præcordial angina and retrosternal pain ascending to the left shoulder and extending down the arm to the hand, exclusively in the region supplied by the ulnar nerve. These symptoms continued for five days after the injections had been stopped, and did not disappear until the tenth day. One month later the patient received for ten days 16 minims of ergotine daily until the return of symptoms stopped its use.

Six months after the commencement of the treatment the tumor could be felt with difficulty behind the pubes, the phenomena of ergotism had disappeared, and had apparently left behind no harmful influence.

REST IN THE TREATMENT OF DISEASES OF THE HEART.

BABCOCK thus concludes a paper on this subject in the *Medical Press and Circular* for January 2, 1895:

1. The position taken by Fraentzel—that rest is injurious in the treatment of all forms of heart-disease—is untenable, and the reasons he assigns are incorrect.

2. Prolonged rest is detrimental, undoubtedly, in cases of enlargement of the heart without valvular disease, particularly if secondary to arterio-sclerosis, and in cases of

fatty or other degeneration of the cardiac muscle.

3. The cause, however, lies in the circulation outside of the heart, and not, as stated by Fraentzel, in the liability of cardiac, like striped voluntary muscle, to degenerate as a result of prolonged inaction, since the heart-muscle cannot during life be subjected to complete repose.

4. When compensation has become destroyed in valvular lesions of the heart, particularly mitral stenosis and aortic incompetence, rest is indicated theoretically and is beneficial in practice.

5. Bradycardia would theoretically contraindicate prolonged rest.

6. On the other hand, it is called for in paroxysmal tachycardia, but should not be maintained, after having shown its powerlessness to affect the heart-rate.

7. Acute inflammatory or degenerative affections of the heart indicate rigid rest in the recumbent position.

THE ACTION OF THE BICARBONATE OF SODIUM ON THE GASTRIC SECRETIONS.

LINOSSIER and LEMOINE (*Bull. Général de Théra.*, December 15, 1894) divide the action of the bicarbonate of sodium into two classes, —the immediate action and the remote. They define immediate action, that which is produced by the soda during a few hours that follow the ingestion; the remote, the action which persists for a greater or less length of time after the cessation of treatment.

The immediate action of the soda upon the secretion of the stomach is decidedly excitant, no matter what the dose. The primary effect of the excitation is the saturation of the alkalinity; if the dose is small or moderate, the excitation continues after the saturation, and provokes an augmentation of the amount of hydrochloric acid in the chyme. If the dose is large, the secretory energy of the mucous membrane is exhausted in fighting against the alkalinity; if the chyme once regains its acidity, the period of excitation is permanently arrested, and the normal proportion of hydrochloric acid in the gastric contents may not have been touched when the foods leave the stomach.

The excitant action is manifested in maximum when the bicarbonate of sodium is administered one hour before the meals; the maximum proportion of acid in the gastric juices is obtained much more slowly when the dose of bicarbonate of sodium has been large (after four hours a dose of 45 grains).

They summarize the remote action as follows:

The remote action of bicarbonate of sodium on the gastric secretion shows itself first by the excitation, then by the depression of the secretion.

The excretion is the result of the immediate action of the bicarbonate of sodium on the gastric glands. The depression, on the contrary, appears to be due to the general action of the medicine, or, to be more accurate, to the alkalization of the blood.

In practice, to obtain and avoid exceeding the stimulating action, it is necessary to employ moderate doses, which are given before meals and on short treatment. To accomplish a sedative action, strong doses must be given during or after the meals and by a continued treatment. Strong or weak doses of bicarbonate of sodium do not exist absolutely; they are only relatively weak or strong according to the state of the secretion. The sensibility of the stomach to the action of bicarbonate of sodium is in proportion to the amount of hydrochloric acid secreted.

The above conclusions may apply to the Vichy waters, and probably to others containing bicarbonate of sodium.

IMMUNITY AGAINST DIPHTHERIA.

BEHRING (*Deut. Med. Woch.*, November 15, 1894) discusses the dosage of the diphtheria serum in respect to protection against the disease. At first the author, with Ehrlich, thought that one-tenth of the curative dose, corresponding to 60 normal units, would suffice, but later one-quarter of such a dose, or 150 units, was found to be desirable. In some instances the patients had already been infected with diphtheria before the serum was injected. Whether it is possible to prevent the development of the disease in such cases by larger doses of the serum than 60 units can only be ascertained by clinical investigation. The author, along with Ehrlich, found that in places where diphtheria was raging, 60 units appeared to suffice for protection. Among ten thousand individuals so treated only ten had the disease. With a virulent infection, and towards the end of the incubation period, the full curative dose of 600 units may not suffice to prevent the disease, yet such cases are rare. According to experience, those who have developed diphtheria after injection with 60 units have had a mild attack. The author would, notwithstanding, recom-

mend the use of 150 units. The question of cost also has to be considered. The protection lasts longer the larger the dose. The antitoxin is gradually excreted with the urine. When it is all excreted the immunity ceases. The immunity is more marked when several smaller doses are given at intervals in place of one large dose. The author does not at present recommend a repetition of the injection at the end of a certain period,—say ten weeks. He prefers a concentrated serum, because, with larger quantities, some may escape, especially with children, who may rub the site of the injection; in this way this latter might possibly be the starting-point of some other infection. —*British Medical Journal*, January 19, 1895.

THE ABORTIVE TREATMENT OF ERYSIPELAS BY JUHEL RENOY'S METHOD,—TRAUMATICINE WITH ICHTHYOL.

RENOY and BOLOGNESI (*Bull. Gén. de Thér.*, February 28, 1895) have reported a very interesting and extensive series of observations on the abortive treatment of erysipelas, and have obtained very remarkable results.

They say, "We do not believe that any really abortive treatment of erysipelas exists,—that is to say, none that gives a prompt and rapid diminution of the exanthema and of the phenomena of the general infection *in all cases*.

Among the treatments which give the best results is the application of ichthyol plaster, as this succeeded in more than half the cases, notably in cases of erysipelas ambulans. An abortive treatment of erysipelas exists which is not always successful, but often (in about sixty per cent. of cases), and it consists of the use of ichthyol traumaticine.

The Preparation of the Traumaticine.—Fresh gutta-percha is cut up into small bits and then treated until completely dissolved by nine or ten times its weight of chloroform. This method is tedious, however. The following may be used if preferred:

A quantity of chloroform one-third in excess of the amount ordinarily required is taken (twelve to fifteen times the weight of gutta-percha). It should be shaken frequently during a day and then introduced into a distilling apparatus. It is there distilled over a water-bath until the quantity of chloroform in excess has been re-collected. The traumaticine thus obtained is thick, homogeneous liquid. It is colored unless the gutta-percha is very fresh. It is therefore well, if the traumaticine is to be used with a colorless substance, to pass it through animal charcoal.

Three parts of ichthyol are added to ten of the simple traumaticine. The proportion is the same for salol, lysol, and carbolic acid. For sublimate, one part of sublimate to one hundred of traumaticine should be used.

The combination of traumaticine and ichthyol thus obtained is a syrupy liquid, dark brown in color, which, when applied with a brush, as directed by Professor Auspitz, of Vienna, forms a thin pellicle, sufficiently soft, but exerting, after the chloroform has evaporated, a compression. It does not produce either tension or sensation, except for a few instants at the moment of application. The patient feels a slight amount of heat or smarting sensation according to the individual sensibility, most marked in women, but supportable and evanescent.

This sensation of burning is produced by the chloroform. Its intensity varies in proportion to the carefulness with which the traumaticine has been prepared, and, where care has not been taken to remove the excess of chloroform, may even produce a burn of the first degree, which is unpleasant for a little time, but disappears entirely before the dressing is removed.

The Mode of Application of Traumaticine.—In a case of facial erysipelas which is well defined by an area of induration easily felt, it is sufficient to circumscribe the erysipelatous area, over the indurated portion or a little externally to it, with a band of traumaticine about three-quarters of an inch in width.

Great care should be taken to be certain of the limits of the disease, especially if the induration about it is not marked, as frequently occurs. This can be ascertained by the sensitiveness to pressure and pain, especially if the region affected is near the scalp. One might suppose that he had circumscribed the diseased area and then have found himself mistaken. The ears, if in the vicinity of the disease, should be carefully examined; if this has not been done a failure may result. If only the anterior surface of the ear is attacked, while the posterior portion and the scalp are free, the band of traumaticine may be passed behind the ear. If, on the other hand, the ear appears sound, but you suspect invasion, nothing prevents the passing of the band both in front and behind the ear, encircling it, to make certain of the result. In case the disease invades the scalp the head must be shaved. If the disease is unilateral, it is sometimes well, besides the treatment of the diseased areas, to surround the unaffected portion with a band of traumaticine. It at least prevents an application on the mor-

row. The face may present a grotesque appearance, but further than this it is without objection, and, as it cuts short the duration of the disease about one-half, it is easily borne by the patient.

If the disease is on one member or upon the body, its application is easier. A girdle or bracelet is sufficient. But, since the ambulant form is more easily diffused, a wider band—an inch and a quarter to one and a half—should be applied. In applying the traumaticine care should be taken that the chloroform is entirely evaporated, or the traumaticine will become injured by contact with clothing and the results will be vitiated.

In the ambulant form the success is more difficult to obtain, and this form of treatment does not succeed so well as in ordinary facial erysipelas. On account of its greater tendency to extension the difficulties are supposedly greater and are sufficiently explanatory of these results. The first of these is the greater dimensions of the circle of traumaticine and the more frequent destruction of the barrier by movements and contact with the clothing, and also the greater difficulty of determining the true limits of the disease.

In these cases, therefore, the preparations of traumaticine employed should be fresh,—that is, made of fresh, purified gutta-percha. The indurated area should be clearly defined, and the traumaticine applied on the sound tissues. If the first attempt fails, new barriers may be applied outside the others, even a second or a third application.

Finally, a mixture of vaseline and ichthyol decreases the tension and pain; the surface of the exanthem should therefore be covered by a mixture of equal parts of vaseline and ichthyol.

STUDIES IN THERAPEUTICS: TRIONAL, SULPHONAL, AND TETRONAL.

A harmless hypnotic, useful in all kinds of cases and certain of producing the required effect, is a sort of "philosopher's stone" for modern therapeutic research to discover. Nevertheless, modern research has discovered hypnotics which, in certain cases, are found preferable to the older ones. Among these the group of drugs—sulphonal, trional, and tetronal—have been already before the medical public for a considerable time. Sulphonal has been the longest in use of these three and the most employed. Tried in all sorts of cases, it was found in certain conditions to produce the required effects and at the same time to be safer than older hypnotics. It was found useful in the insomnia of nervous irritability, in chronic heart-affections, phthisis, etc., especially when opium was contraindicated. On the other hand, it is sometimes slow in its action and cumulative in the system, and may be attended with disagreeable after-results, such as anorexia, diarrhœa, vomiting, giddiness, headache, or depression. It is said also to increase arterial blood-pressure and to be contraindicated in angina pectoris.

Sulphonal is diethylsulphon-dimethylmethane. Baumann and Kast, the latter of whom had first described the hypnotic effect of sulphonal, made a number of experiments upon dogs with compounds allied to sulphonal, and concluded that their hypnotic action increased with the number of ethyl groups in their molecules. Sulphonal contains only two ethyl groups in its molecule, while trional (diethyl-sulphon-methyl-ethylmethane) contains three and tetronal four (diethylsulphon-diethylmethane). If Baumann and Kast's theory were correct, then trional should be a more powerful hypnotic than sulphonal, and tetronal than trional, as they were actually described to be in the case of dogs. Barth and Rumpel tried to find out how far this conclusion was correct in the case of human beings. They gave trional and tetronal to patients who had already taken sulphonal with advantage. Like sulphonal, both trional and tetronal were found to have marked hypnotic properties, but this action of the three drugs did not seem to bear a definite relation with the number of ethyl groups contained in their molecules, as described by Baumann and Kast in their experiments on dogs. On the contrary, the same dose of any of the three drugs was found to have much the same effect, though it was noted that when any one of the three had been administered several days in succession, a change to one of the others usually intensified the action. In a few cases where sulphonal was slow in its action, trional and tetronal produced a full hypnotic effect. Barth and Rumpel considered that the indications for trional or tetronal probably corresponded with those for sulphonal, better than the latter. Neither trional nor tetronal, even when given in doses of 4 grains daily, produced, according to these observers, any perceptible effect upon the outbreak or course of alcoholic delirium. No injurious by-effects were observed by them in any of the two hundred and twenty cases in which trional and tetronal were administered. As an hypnotic, tetronal acted in fourteen cases better than sulphonal, in four cases worse than it, and in six cases equal to it; while trional acted in seven-

teen cases better than sulphonal, in seven cases worse than it, and in six cases equal to it.

More recent observers—Horvath, Hammerschlag, Koppers, etc.—are more enthusiastic as to the advantages of trional. While Horvath, however, from experiments on animals, concludes that tetronal acts better than trional, Ramoni, from experiments on lunatics, thinks that trional is the stronger hypnotic of the two. Trional is a colorless substance, possessing a slightly bitter taste, soluble in three hundred and twenty parts of cold water, and, owing to the rapidity of its action, is best administered about half an hour before bedtime in about eight ounces of some warm vehicle, as tea, broth, or milk. If necessary, it can also be administered by the rectum, its action thereby not being lessened.

The action of trional is much the same as that of sulphonal, but the advantages claimed for it are that it is a more powerful hypnotic, that it may act where sulphonal fails, that its action is more immediate, and that unpleasant after-effects are fewer or absent altogether. Schaefer adds that after continued use of trional no disagreeable symptoms follow its discontinuance; and no "trional habit," it is said, is established; but similar claims made for other drugs have proved ill-founded. The average dose for a healthy individual is about 15 grains, and this will usually suffice for simple insomnia; 20 or 30 grains may be given, if necessary, but with still larger doses the effects do not seem to increase proportionately; according to Koppers, 4 or 8 grains may suffice to diminish night-sweats. By experiments on animals, Horvath found that it first increased and then diminished the pulse frequency, that the blood-pressure was only slightly lowered, and that death took place by cessation of respiration.

Among the occasional unpleasant effects observed in human beings, Koppers mentions diminution of blood-pressure in a case of heart-disease, and Hammerschlag and others have noted some slight digestive disturbances. It appeared never to cause albuminuria. In a few cases lassitude, headache, giddiness, tinnitus aurium, and a sort of ataxy with Romberg's sign have been noted next day.

Koppers places trional as a narcotic above sulphonal, amylene hydrate, chloralamide, bromides, and chloral, but finds that in cases of severe pain it does not possess the power of morphine. Schaefer found that in cases of great psychical and motor excitation trional could not take the place of hyoscine. He likewise attributed no good effects to trional in the treatment of morphino-cocaine psychoses. This is, however, disputed by Boettiger and Hammerschlag, the latter differing from other observers in finding trional a useful hypnotic in the treatment of the majority of alcoholics. Hammerschlag finds the results as good as or better than those with chloral or morphine in the treatment of cases he quotes, including melancholia, mania, hysterical and epileptic conditions, hypochondria, paranoia, and general paralysis of the insane.—Leading article in *British Medical Journal* for January 19, 1895.

TREATMENT OF UTERINE FIBROIDS, WITH REPORT OF CASES.

The *Boston Medical and Surgical Journal* of January 31, 1895, contains an article on this topic by LEONARD WHEELER. He states that the history of surgical treatment of uterine fibroids begins with the publication of Kimball's (of Lowell) case in the *Boston Medical and Surgical Journal* in 1855. The first case was successful, and was followed by two unsuccessful cases operated on in the same way. The pedicle was tied with silk, dropped into the abdomen, and the ligature brought out at the lower angle of the wound. No further step was made for nearly twenty years.

In the early seventies Koeberle and Péan improved the operation and established it on a scientific basis. The silk ligature was replaced by a wire clamp, and instead of being dropped back into the abdomen, the pedicle was fixed in the wound by long pins, and the peritoneum nicely sutured around it.

Then came the period of septic surgery and renewed attempts at the intraperitoneal treatment of the pedicle. These attempts resulted in what has been called Schroeder's method, where a wedge-shaped piece is removed and the flaps of the pedicle thus left are united by tier sutures, the peritoneum being closed over all. Péan had obtained a mortality of thirty-four per cent. Schroeder reduced it a little,—to thirty per cent. Martin, of Berlin, by the use of Schroeder's method, with the addition of drainage through Douglas's pouch, got twenty-two per cent. Zweifel (Leipsic), in 1889, using a continuous chain suture of silk, running across the pelvis from side to side, including both broad ligaments and the uterine stump, had a series of twenty-two successful cases.

At present the operation of abdominal hysterectomy is done in four different ways. The method by fixation of the stump in the ab-

dominal wound still has followers, pre-eminently Bantock in England and Price in America. By several operators the pedicle is left in the peritoneal cavity. Others treat the pedicle extraperitoneally on the floor of the pelvis,—that is, after amputating the uterus the pelvic peritoneum is united over it,—or, finally, a complete hysterectomy is done.

The results obtained by these different methods by large operators are all excellent, and vary astonishingly little. For instance, as reported at the International Medical Congress held this year in Rome, Martin reported a series of twenty-six cases, with one death, a mortality of 3.8 per cent.; De Ott, twenty-four cases, with one death; Bantock, twenty-three cases, with one death; Carle, twenty cases, with no death; Zweifel, ninety-three cases, with three deaths. Leopold reports twenty cases, with no death, and mentions Brennecke's report of nineteen cases, with no death; making, in all, two hundred and twenty-five cases, with six deaths, a mortality of 2.6 per cent. These are selected statistics, and by no means represent the present average rate of mortality for the operation of hystero-myomectomy. Still, it is a fact that five years ago the general mortality of the most frequent operators was twenty-five per cent., while now the same class of men have a mortality less than one-third as large.

In this country also the tendency is towards the operations of complete hysterectomy and supravaginal hysterectomy. At the meeting of the American Gynæcological Society, May, 1893, there were reported from Polk thirty cases, with two deaths; Mann, thirteen cases, with one death; Krug, twenty-five cases, with two deaths; Baer, in September, 1893, reported thirty-seven cases, with two deaths; Eastman, seventy-nine cases, with eight deaths; Kelly, fifty cases, with three deaths; Baldy, forty-one cases, with four deaths; Edebohls, six cases, with no death; in all, two hundred and eighty-one cases, with twenty-two deaths, a mortality of 7.8 per cent. If the American reports were brought to as late a date as the foreign ones, the showing would undoubtedly be somewhat better still. This operation has been especially promoted by Polk, of New York. He first described it in a paper read at the annual meeting of the American Gynæcological Society in 1892. It consists in tying off the broad ligaments, making anterior and posterior peritoneal flaps, by peeling the membrane from the uterus, tying the uterine arteries, cutting through the vaginal junction, uniting peritoneum with vaginal wall anteriorly, posteriorly, and laterally with long catgut sutures, drawing these ligatures into the vagina and filling the vagina with iodoform gauze. Polk's record in May, 1893, was thirty cases, with two deaths, as stated above.

On equal footing with this plan stands the method of amputation of the uterus just above the vaginal junction, thus leaving a small uterine stump. Some operators constrict this stump in one mass, others in two or three portions, while others still tie the uterine artery just as in Polk's operation, putting no ligatures on the stump. The best results in this kind of operation have been published by Baer, of Philadelphia, and Zweifel, of Leipsic. Baer ties the arteries, leaves only the vaginal portion, and this unligated, does not touch the cervical canal, and unites the peritoneal flaps over the stump. Baer's latest statistics were thirty-seven cases and two deaths. Kelly, after tying the uterine arteries, dissects the vesical peritoneum, amputates the tumor, cups the pedicle, brings the flaps together with silk sutures, and unites the peritoneal flaps over all with a continuous suture. He reports fifty cases, with three deaths. Zweifel ties the broad ligaments with two interlocking silk ligatures, puts on an elastic ligature, removes the tumor by a wedge-shaped incision into the pedicle, then continues the interlocked suture, using catgut for uniting the stump flaps. He has published a series of ninety-three cases, with three deaths.

A few operators still adhere to the wire clamp and pedicle pins, but the results by total hysterectomy and supravaginal hysterectomy, with closure of the peritoneum over the stumps, have reached such a degree of excellence that the near future will probably see the abandonment of the old extraperitoneal method.

The figures which the author quotes bring the operation of hysterectomy up to a level in point of success with ovariotomy. This accomplished, the question of indications for the operation has to be reviewed. The surgeon who counts upon ninety per cent. of cures looks at the question quite differently from one who expects only seventy-five.

The rule used to be to operate only on those cases which threatened the life of the woman or made it unendurable; now the surgeon finds no little favor who advocates hysterectomy for a very moderate amount of discomfort caused by the presence of a uterine fibroid. As always happens in such cases, the ardor of success carries men too far; and not only is operation advised where it seems unnecessary, but, on the other hand, the dangers of uterine fibroid are

unduly exaggerated, and a bold attempt is made to shake our faith in the old-established belief that the menopause has an inhibiting influence on its growth, and that spaying for a fibroid is a reasonable procedure; and this attempt is indeed, in a degree, successful, for we no longer believe a fibroid of the uterus to be quite the innocuous thing we have been taught. Matthew Duncan exclaimed, "Who ever knew a woman to die of fibroid tumor?" The writer recalls four in his own experience. Many will be able to remember such cases, and we all know how unreliable a mere effort of memory is in these matters. The indication for surgical interference is not so often impending death as the incapacity for enjoyment or utilization of life, brought about by pain, hemorrhage, or pressure sequelæ.

At present it is useless to lay down exact indications for the operation and the circumstances of the patient. The tumor which incapacitates a poor woman for work or the care of a family must be operated on, while the same tumor in a woman not obliged to work could be taken care of symptomatically without trouble.

As to tubo-ovariotomy, it has a mortality among the best operators of five per cent.; its field of operation is necessarily limited and its results more or less uncertain. Under these conditions its range of application must grow less and less as the success of hysterectomy increases, although Pozzi, writing in 1890, says, "The number of surgeons who still prefer the operation of hysterectomy in all cases is becoming continually smaller." So rapidly are changes taking place nowadays in the field of abdominal surgery.

The question of electrolytic treatment of fibroid has been the cause of vigorous argument, and is not yet settled. It seems as though much good can be accomplished by it in relieving symptoms and restoring general health, though there is no doubt that the relief will oftentimes be temporary. The hope that it can cause any important diminution in the size of the tumor must be given up. It is certainly the best treatment in cases where, for any reason, an operation is not admissible.

THE EMPLOYMENT OF BICARBONATE OF SODIUM IN THE TREATMENT OF GASTRIC DYSPEPSIA.

MATHIEU, after reviewing the various opinions of physicians as to the value of bicarbonate of sodium in the treatment of dyspepsia, arrives at the conclusion that this alkaline salt is equally serviceable in hyperchloracid acidity as in hypochloracid acidity. Its value depends upon the method of its administration. In hypochloracid acidity, doses of from 7 to 30 grains in the morning before breakfast augment secretion and increase the motor activity of the stomach. It is, however, of little utility in cases of pronounced dilatation.

For hyperchloracid acidity full doses of bicarbonate of sodium during digestion are necessary.—*Revue Internationale de Médecine et de Chirurgie Pratiques*, January 25, 1895.

APPENDICITIS.

GAY, in the *Boston Medical and Surgical Journal* of January 31, 1895, emphasizes the fact that a patient with recurring, or "sleeping," appendicitis is in constant danger of an explosion, which may prove fatal in spite of the most prompt and skilful treatment.

By way of summary the following facts are given as indicating operation:

1. In very severe cases, and immediately.

2. In moderate cases in three or four days, if the symptoms are not progressing favorably.

3. In slight cases, if they do not get well in a reasonable time, or do not steadily progress towards recovery.

4. In cases attended with frequent exacerbation without any distinct interval.

5. In recurring cases, and, as a rule, in the interval after the second attack.

6. Cases of doubtful diagnosis, in which the symptoms do not subside within a reasonable time, may be subjected to exploratory incision, with the expectation that more good than harm will be done in the long run.

7. Patients who must live out of reach of competent medical attendance, as well as those in the humbler walks of life, may require operation under circumstances not otherwise advisable.

On the other hand, light cases, and those of moderate severity that show signs of improvement upon the third day, do not require operation during the first attack, provided convalescence is not interrupted or prolonged.

The author then touches upon a few points as to the manner of doing laparotomy for appendicitis. Two classes of cases are met with in our every-day work.

In the first, the incision leads directly into the abscess cavity, which may be a portion or the whole of the peritoneal space. In the most favorable conditions the disease is limited to a small part of this cavity by a retaining wall of

lymph, and an operation is little more than opening a deep abscess. This may be done by the so-called Hilton method, which consists in dividing the tissues down to the transversalis fascia, puncturing the abscess with a blunt instrument, as a director, and dilating the opening thus made to the desired extent.

In the second class of cases, on opening the peritoneal cavity, the disease is found to be walled off deep in the pelvis, or in a mass of intestines or omentum, and drainage is possible only through the general peritoneum. This is a very undesirable complication to encounter, as pus in the peritoneal cavity is one of the most dangerous conditions attending the affection. The peritoneum is to be protected by carefully packing sterilized gauze all about the abscess, leaving a space in the centre or to the outer side for the exit of the discharges and for drainage. Care is to be taken in the manipulations that the abscess is not prematurely ruptured, thus allowing the pus to escape into the peritoneal cavity among the coils of the intestines before the packing is complete. Everything being in readiness, the retaining wall can usually be broken down easily with the finger, and the examination carried to the desired extent.

The cavity of the peritoneum, or the abscess, having been opened, several difficulties may now be expected. Naturally, the first object to be sought for is the appendix. In the late cases it may have sloughed off, when it will very likely escape in the discharge, together with the little fæcal mass so often found in these conditions. Not infrequently, however, it will be so covered over by exudation and adhesions as to be indistinguishable from the other structures, either by sight or touch. And just here comes up the important question as to how far the search for the offending member shall be carried. The present consensus of opinion is in favor of doing much less violence to the parts in our endeavors to find and remove the appendix than formerly. It is no easy matter to detect it and to dig it out of a mass of adhesions, in which may be omentum, intestine, blood-vessels, etc., all located deep in the pelvis. Nor are such efforts, which are necessarily made in the dark and largely by the sense of touch, free from danger.

Judging from experience, it makes little difference in the immediate result whether or not the appendix is removed at the time of the operation. Dr. Miles F. Porter, of Fort Wayne, in the *American Journal of the Medical Sciences* for December, 1893, gives a table of four hundred and forty-eight cases of appendicitis treated in various ways. In one hundred and twenty-two instances the appendix was removed at the time of the operation. The recoveries were, in round numbers, eighty per cent. One hundred and fifty-four cases were treated by simple incision and drainage; the results were eighty-one per cent. of recoveries. This difference is not of sufficient importance in itself to influence the operator's action. If future experience shall prove, as it now bids fair to do, that patients do as well when the appendix is left as they do when it is removed, the labors and anxieties of the operator, as well as the danger to the patient, will be very much diminished. The author believes that the appendix is pretty readily found; otherwise the case is treated like any deep suppuration.

Does removal of the appendix render the patient any less liable to recurrence? While time and experience will not yet allow us to decide this point too positively, the writer thinks that recovery is more sure and speedy and relapses rather less common in those cases in which the appendix has been removed, either by the surgeon or by natural processes. He has seen a recurrence after removal of the tube; he has seen two or three relapses under the opposite condition.

According to our present light, relapses are not common enough to justify too earnest and thorough search for the appendix at the time of operation. The danger from infecting the peritoneum, and from too prolonged manipulations increasing shock and prostration, outweighs any benefit which may be expected from a removal of the appendix under the above circumstances.

In searching for this organ, experience proves herself to be a most valuable teacher. The practised finger in most instances is enabled to detect the hard, cord-like body of the appendix, and by careful manipulations to sever its attachments and bring it up into sight. Its mesentery having been tied off, a ligature is applied as near to the base as possible, and the free portion is cut away.

Some surgeons invert the end of the stump and bring the serous surfaces together with sutures, a plan that is feasible, provided the tissues are not too friable. There are successful operators, however, who do not apply any ligature. They imitate nature in the management of the stump by simply letting it alone and allowing it to heal by granulation. As patients do well under both methods of treatment, one is not disposed to be too dogmatic in the matter. Personally, the author uses ligatures and sutures in dressing the stump, as

he believes in taking every precaution to prevent intestinal leakage and also to hasten the repair of the parts.

The author does not believe that silk placed at the bottom of a suppurating cavity tends to keep open the sinus, and thus prolong convalescence by acting as a foreign body. There is no doubt that such is the fact in exceptional instances, but it is not probable that it occurs often enough to influence our mode of treatment. The objections to catgut are that it is more uncertain in strength and durability and is less readily sterilized. It is very good for ligation of blood-vessels, but, in the writer's opinion, is inferior to silk as a ligature for the appendix.

Fæcal fistulæ are not very rare after the removal of the appendix in suppurating cases, but they usually close of themselves in one or two weeks. In rare instances, when complicated with tuberculosis, they do not heal, but serve as a factor in wearing out the patient by malnutrition and exhaustion. The only permanent fistulæ the writer has seen in patients who have in other respects regained fair health have followed spontaneous rupture of the abscess. Fæcal fistulæ and troublesome sinuses depend far more upon the want of vitality in the tissues involved than upon any particular method of treatment. The key-note of the surgeon's duty is incision and drainage, and so long as that is fairly accomplished, we need not spend overmuch time upon the minor details.

For drainage, the baked gauze is preferable, except in deep or large cavities requiring frequent irrigation, when two or more rubber tubes may be used in addition to the packing. In several of his later operations he did not wash out the suppurating cavity at all, but contented himself with making a free incision, removing the appendix, when feasible, and establishing good drainage. Thus far the results have been as good as when treated by free irrigation. The latter is especially indicated in cases attended by abundant and fetid suppuration. The peritoneal cavity can neither be drained nor irrigated when the seat of general adhesive inflammation. However freely the adhesions may be broken up, fresh ones will form within twelve hours, rendering irrigation and all methods of drainage ineffectual and unsatisfactory.

From the fact that many cases seem to be benefited by saline and other cathartics, there will always be a difference of opinion as to their real value in the early stages of appendicitis. The family physician has taught the surgeon some valuable lessons on this point. It is evident that cathartics can do only harm in cases of perforation with no external outlet for the discharges. They not only tend to liquefy the contents of the bowels, but they also increase peristalsis, and thereby may flood the peritoneal cavity with the most deleterious of all substances,—liquid fæces. Cases of distention from intestinal paresis are made worse by cathartics, as they may cause or aggravate the vomiting, which is a serious symptom in this affection.

After operation and the establishment of drainage, nothing relieves pain due to distention so surely and so effectually as salines given in small and oft-repeated doses. Few practitioners of experience deny the value of laxatives under these conditions. In the early stages of light or catarrhal cases they very likely are beneficial in establishing intestinal drainage by unloading the vessels of the portal system, as well as by removing irritating substances from the bowels. They are to be used carefully and judiciously and only in mild cases, and always with the idea in mind that an operation may be necessary at any moment, even after the production of free catharsis. It is the opinion of many practical surgeons that even the mild cases do as well under the opiate as under the cathartic treatment. While patients often recover under both methods, the writer's experience leads him to think that, as a rule, the former is safer than the latter, and that the results are fully as favorable.

Opiates are indispensable in the treatment of this affection, and yet the same objection to their use obtains as in strangulated hernia. They may obscure and cover up the patient's real condition. The amount of opiate required is an indication of the severity of the pain, and hence of the character of the attack.

THE TREATMENT OF NEPHRITIS BY THE EXTERNAL USE OF PILOCARPINE.

MOLLIERE employs in all forms of nephritis an ointment composed of vaseline three ounces and nitrate of pilocarpine one and a half grains. The only contraindication to its employment is uræmia. The ointment is well rubbed into the skin, and it is asserted that amelioration of the symptoms rapidly takes place. The method must be continued for several weeks. As a result of the treatment an increased action of the skin and of the kidneys is rapidly produced through its action upon the sweat-glands and the secreting epithelium of the kidney.—*Revue Internationale de Médecine et de Chirurgie Pratiques*, January 25, 1895.

HINTS CONCERNING THE PERFORMANCE OF THE OPERATION FOR THE EXTRACTION OF SENILE CATARACT.

HASKET DERBY, of Boston, one of the most noted of American ophthalmologists, gives directions for this operation in the *Boston Medical and Surgical Journal* for February 1, 1895.

The patient should take a warm bath the evening before. An hour or so before operating, the parts about the eye and the outer surface of the lids should be thoroughly washed with soap and water. A thick compress should then be saturated with a solution of corrosive sublimate (1 to 5000) and left on the closed eye till the cocaine is applied. After a drop of a two-per-cent. solution of cocaine has been instilled into the eye and has exerted its anæsthetic effect, it is the writer's practice to wash out the conjunctival sac thoroughly with the above sublimate solution. The slight irritation caused in many cases by the application of a solution of this strength to an eye that has not been cocainized seems to me undesirable.

The instruments, with the exception of the fixation forceps, the rubber tips of which would thereby be softened, are dipped in boiling water, carefully dried with a piece of carbolized linen which is taken from the sterilizer, and laid on a glass-topped table that has been washed down with the same sublimate solution. The fixation forceps are to be dipped in absolute alcohol. There is no objection to immersing all the instruments in a tray filled with this liquid, but the writer does not believe it to be necessary. The hands of the surgeon having been thoroughly scrubbed with sublimate soap, should afterwards be dipped in the sublimate solution. Should there be an assistant, he ought to adopt similar precautions. The writer does not find the services of an assistant necessary, and cannot remember having taken one to a cataract operation in private practice for the past twenty years. With the disuse of ether it would seem that all necessity for additional professional help has disappeared, the patient having now full possession of his faculties and being able to help the operator by turning the eye in the desired direction. If the operation be performed in a hospital, a trained nurse will, of course, always be present, and can prepare and pass the various applications and dressings, removing the latter from the sterilizer as they are needed.

Shall iridectomy be performed or not? This is the burning question of the present day. In favor of leaving the iris intact may be mentioned the lessened operative interference with the eye, there being but one wound to heal instead of two, the cosmetic effect of a round, central pupil, and the protection afforded by its spontaneous dilatation and contraction. Against simple extraction are to be alleged the increased difficulty in removing cortical substance that may remain behind from the pupillary area, and the great danger of prolapse of the iris. The author maintains that the average patient at the hands of the average surgeon stands a better chance of an uncomplicated recovery, and in consequence thereof of attaining useful vision, if iridectomy be performed. It is true that great and practised operators obtain excellent results in the vast majority of cases from simple extraction, and that many of them at this time are inclined to make it the rule and the combined operation the exception. But even they must accept the fact that no amount of experience in selecting cases or of manual dexterity in operating can enable the surgeon to declare that in any given case iris prolapse may not occur. In a series of one hundred attempted simple extractions it will be found that six or eight iridectomies have to be done after the removal of the lens, on account of the difficulty experienced in maintaining reposition of the iris. The performance of iridectomy at this stage is always a most delicate and difficult proceeding; and in from eight to ten other cases, out of the same one hundred, iris prolapse takes place under the bandage, owing to some sudden motion of the patient or without assignable cause.

If this is the experience of the older surgeons, what might be that of the beginner? Therefore the young practitioner will do well to combine iridectomy with extraction.

After the instillation of cocaine, a two-per-cent. solution of which may be dropped in the eye at least twice before the operation, at three-minute intervals, the first step in the operation is the introduction of the spring speculum. That made by Weiss, of London, is the best. It is light and manageable, adapts itself to the face, has not too strong a spring, and can readily be withdrawn.

The cut being made upward, fixation is applied directly below the cornea. For this purpose he has discarded the ordinary toothed forceps, and employs the rubber-tipped ones used to hold the eyeball during the operation of tattooing the cornea. It is true that the hold we thus obtain is somewhat less firm, but it generally suffices, and unless the conjunctiva is very friable, it is rarely wounded.

The cut is made at the sclero-corneal junction, and should extend over one-third of the

periphery of the cornea, being crescentic in shape. Pagenstecher advocates the formation of a conjunctival flap, from which the writer wholly dissents. He has already dwelt on the advantage of eliminating a second wound in the shape of the iridectomy, and yet now advises the infliction of one much larger and more external, involving a relatively large healing area. It has even been the writer's practice, on completing the corneal cut, to turn the blade of the knife forward and cut out as rapidly as possible, fixation being at once and finally desisted from.

Before proceeding to the iridectomy, cocaine should once more be instilled. The patient then being requested to look down, and at the same time warned as to the possibility of slight momentary pain, as well as the necessity of avoiding any sudden movement at this critical moment, the iris is grasped at its pupillary edge and a small coloboma formed. In many cases no special pain is felt, the senile iris appearing to lose a portion of its sensitiveness. Should any iris tissue be caught in the corners of the corneal wound, it is well to free and replace it with the small flat rubber spatula before opening the capsule.

The speculum is now carefully withdrawn. If, in spite of the styptic action of the cocaine, any hemorrhage should now be present, it may be controlled by allowing the patient to gently close the eye, and by applying externally a wad of sterilized lint dipped in an ice-cold solution of the sublimate indicated above. From this time forth the operator himself raises the upper lid with the forefinger of the left hand, when it is desired to expose the eye. He is thus in a position to allow the eye to close at once should a sudden loss of vitreous occur, and to avoid the aggravation of this accident, which the removal of a speculum might entail. The capsule is to be thoroughly incised in different directions with the cystitome. There is no advantage in the peripheric opening advised by some writers.

In regard to removal of the lens, the writer's practice has always been to bring this about by pressure made at the base of the cornea, through the lower lid, the pressure being exerted by means of the back of the rubber scoop. After the escape of the lens any remaining fragments of cortical may be collected in the centre of the pupil by judicious rubbing through the closed upper lid, and then chased to and made to escape from the wound by stroking the eyeball upward through the lower lid, the patient the while looking a little down. If, as is often the case, the fragments are arrested at the wound by the coaptation of its edges, these may be held apart by means of the Daviel spoon, used simply to encourage separation, and not introduced into the anterior chamber. Even here the services of an assistant are unnecessary. The surgeon holds the upper lid against the edge of the orbit by means of the little finger of his left hand, manœuvres the spoon between the thumb and forefinger of the same hand, and uses his right to propel the fragments of cortical substance towards the wound and out of the eye. The irrigation of the anterior chamber for cleansing purposes is a difficult and delicate proceeding, and although in the hands of experienced operators it may sometimes be productive of good results, it is never to be advised the beginner, who had better run the risk of allowing a small amount of lens matter to absorb than follow a method the results of which are sometimes so harmful.

Should vitreous escape before the lens is removed, and especially if the latter shows a tendency to become dislocated backward or downward, the scoop (preferably that of Bowman) should be at once introduced and the lens extracted. As this is a contingency that may at any time occur, it is well to have the scoop in readiness and thoroughly disinfected before commencing the operation.

After the removal of the lens and the clearing of the pupil, the rubber spatula is to be passed into each corner of the wound, to free any fragment of iris or capsule that may have lodged there. A drop of a one-per-cent. solution of eserine, instilled into the conjunctival sac before closing the eye, tends to withdraw the iris from the wound and thus prevent collapse. A sterilized bandage is then to be applied.

The author endeavors to operate in the early morning, and it is his custom to visit the patient again late in the afternoon and change the bandage, washing the outside of the eye with sterilized lint dipped in sterilized water, but not separating the lids. This is repeated thereafter once a day until the eighth day, when he makes his first examination of the eyeball. The writer has learned from experience that the longer the first examination is postponed the better is the condition of things. Of course the rule is not invariable; there are cases where the skin will not so long support the irritation of continued pressure and requires earlier exposure to the air; and where pain, swelling, lachrymation, and discharge warn us that the normal healing process is not going on, an immediate examination must be made.

In order to secure dilatation of the pupil, he wets with the usual solution of atropine the small piece of linen that is placed directly on the eye, thus serving to prevent fragments of lint from getting in between the lids. This is done daily for several days previous to opening the eye, and is found in the majority of cases to affect the pupil. It is especially desirable to do this in cases where cortical substance is known to have been left behind.

In regard to the claim that, after the operation of extraction, only one eye need be guarded, the lids being tightly closed with plaster; that the patient may be allowed to remain in a light room, and even to use the other eye; it may be replied that undoubtedly some eyes recover under these or even more unfavorable conditions, and that accurate and extended statistics must be substituted for vague assertion before the average surgeon will be justified in so serious a departure from precautions which have stood the test of long experience.

It is seldom necessary to confine the patient to the bed more than twenty-four hours. On the afternoon of the operation a bed-rest may be used under the shoulders and a half-sitting posture indulged in, a change always productive of much relief. After dressing the eye the following morning, the patient is allowed to leave the bed and occupy an easy-chair, wearing a loose wrapper. On the third day the ordinary clothing may be resumed and a walk up and down the entry allowed, an attendant being, of course, at hand. The mild form of mania that occurs with some old people a few days after the operation is largely due to the combined effect of darkness and solitude; hence pleasant society is always desirable. A friend or attendant should be in the room most of the time, and the patient conversed with or read to as much as possible. At the hospital where the author usually operates there are deep windows with drapery hanging in front of the recess, leaving room for the reader behind the curtain; but in other places a screen may be used, with a light behind it. After the first day or two darkness of the chamber is not desirable, a moderate degree of light being allowed to enter. Sudden changes of light are to be avoided.

THE TREATMENT OF DRY PLEURISY BY A NEW METHOD.

CERENVILLE has proposed to the French Congress for Internal Medicine the injection into the pleural cavity of sterilized olive oil in cases of fibrinous pleurisy, for the purpose of diminishing the pain and exerting a healing influence. He claims that he has used this treatment with satisfactory results.—*Revue Internationale de Médecine et de Chirurgie Pratiques*, January 25, 1895.

NOTE ON THE ACTION OF MALAKIN AS AN ANTIPYRETIC AND ANTIRHEUMATIC.

During the last few months ABERNETHY has used malakin in a number of cases of pyrexia of rheumatic and other origin, and has been much struck with its good effects. Malakin, it is claimed, is a salicyliden-para-phenetidine which, in the presence of dilute mineral acids, is decomposed into salicylic aldehyde and paraphenetidin. This decomposition taking place in the stomach, the salicylic aldehyde, on being absorbed, is, according to Schmiedeberg, oxidized to salicylic acid in the tissue of the body, and can be recognized in the urine.

The author's first and most striking case was that of J. M. I., aged twenty-nine, who was admitted into Chalmers Hospital on May 12, 1894, and he gives it in detail, as it illustrates a troublesome condition occasionally met with in protracted cases of rheumatic fever. The history was that of a chill caught some days before, with fever and pain in the joints, beginning in the left thumb and soon spreading to nearly every joint in the body.

On admission, the signs were typical of a severe attack of acute rheumatism, with copious sour perspiration. Temperature, 101° F.; pulse, 90; and severe pain and swelling in various joints, particularly the knees and wrists.

At first salicin was given in doses of 30 grains every two hours, and was continued until the 17th, without, however, seeming to have a very marked controlling effect on the symptoms. Then the pulse and breathing became accelerated, and some consolidation was noticed at the base of the left lung. The temperature varied between 99° and 102° F. Sulphate of quinine was now substituted for the salicin, but with no effect on the temperature, though the lung condition entirely cleared up. Patient lost flesh to some extent, and paraldehyde was necessary to produce sleep. The joints now began to improve, and on June 29 the right knee was the only one affected, though there was still a good deal of effusion in it.

On this date (June 29), however, she had a sudden very severe rigor, and the temperature rose to 104.8° F., with copious sweating and

severe pain in the right knee-joint. The ice-pack was applied and brandy given, with the result that the temperature fell, and in five hours was 101.8° F. The usual continued type of fever was resumed, patient continuing to lose flesh.

No albumin appeared in the urine, and the articular swelling began to disappear under blistering and rest. On July 7 the temperature rose again, with rigor, to 105.4° F., but fell rapidly after sponging with ice-water and the administration of stimulants.

These pyrexial outbursts occurred from time to time, and towards the end of July the temperature assumed a more zigzag course, instead of its previous continued type. During the first part of August several attacks occurred; indeed, after the 12th, almost daily.

On August 28, while the writer was temporarily in charge of the medical wards of the hospital, malakin, 15 grains, thrice daily, was given, and at once there was cessation of all pyrexia, the temperature becoming normal, and remaining so till the date of patient's discharge. She was then quite well, fairly strong, able to walk about the ward, and all that remained was a faint systolic bruit accompanying, but not replacing, the first cardiac sound.

He was so convinced of the good effect of the drug in this case, after other antipyretics had failed, that he has given it since in a good many cases of pyrexia due to various causes; among others, a case of rheumatic fever, with advanced mitral disease, in which it controlled the symptoms admirably without, apparently, causing any considerable depression; also in two cases of croupous pneumonia in children of nine and eleven respectively, in which it seemed to have a beneficial effect, both making remarkably good and speedy recoveries. In short, such results as he has obtained so far encourage him to make a further trial of the drug in those cases of pyrexia in which either the phenacetin or the salicylic group has been found useful, but especially the latter, as its use seems to be attended with a minimum of the bad effects sometimes seen under the administration of those drugs.—*Edinburgh Medical Journal*, February, 1895.

THE TREATMENT OF DIPHTHERIA.

L. G. PAPKOFF (*Vratch*, No. 44, 1894), of the Odessa City Hospital, draws attention to a method of treatment suggested by N. S. Ignatovsky. It consists in painting diphtherial areas with a mixture of kerosene (1 ounce), turpentine oil (1 ounce), and peppermint oil (2 drachms), the application being repeated every two hours, or even every hour or half-hour. As adjuvants there are employed gargles of a four-per-cent. solution of boracic acid mixed with a few drops of mint tincture, sometimes steam inhalations of the same mixture, hot compresses to the neck, etc. The best results are obtained in catarrhal forms of faucial diphtheria, the percentage of recoveries amounting to ninety-eight. The deposits gradually disappear in five or six days, leaving no trace, and the general course of the disease remains mild. The method also proves "fairly successful" in gangrenous forms, though recovery takes place much more slowly. In septic forms the paintings are efficacious only in early cases,—that is, when the treatment is commenced before the appearance of prostration and constitutional symptoms due to absorption of the virus. In advanced septic cases, as well as in croupous forms, the treatment fails to arrest the morbid process.—*British Medical Journal*, February 9, 1895.

A FATAL CASE OF POISONING BY MAYO'S VEGETABLE VAPOR.

SWEETSIR reports the following case in the *Boston Medical and Surgical Journal* of January 31, 1895:

John S., the patient, was a boy nineteen years of age, strong, well developed, and muscular, never having been ill before. He was given Mayo's vegetable vapor December 20, at 9.30 A.M., for the purpose of having two teeth extracted. The amount given was rather less than the average dose, about eight gallons, which he seemed to take easily. The teeth were extracted without pain, and he apparently came out of the anæsthetic normally.

After talking with the dentist about having some teeth filled, he left the office, apparently a well boy, and walked to his home, a quarter of a mile distant. When he arrived there, however, he complained of feeling ill, and his condition was such that his mother became alarmed and sent for the writer.

The reporter saw him at ten o'clock, about half an hour after he had inhaled the vapor. He at that time was apparently in a dying condition. His face and extremities were deeply cyanosed and covered with cold perspiration; pulse, 170; respiration, 34. He was conscious, and answered questions intelligently; but he was stupid, and was raising much frothy mucus and saliva. He was given hypodermically $\frac{1}{60}$ grain of sulphate of strychnine, $\frac{1}{60}$ grain of digitalin, and ½ ounce of brandy. Hot-water bottles

were placed around him, and, with plenty of coverings, his couch was moved near an open window, although it was a very cold day. The dentist who gave him the anæsthetic worked with the writer over the patient about four hours, giving him in the mean time all the heart stimulants at hand, including nitro-glycerin, aromatic spirits of ammonia, and digitalis. The circulation improved; and at noon the pulse was 130, cyanosis less marked, and he said he felt better.

At 2 P.M. the heart-beat was 120 to 130, and the cyanosis had largely disappeared. At this time (2 P.M.) the writer left him, with instructions to the dentist to see him in an hour, and if he did not seem as well to call in a fellow-practitioner, as he could not see him again until six o'clock.

His attendants said that he seemed improving until 4 P.M., when he slipped from the couch on which he was lying to the floor. They asked him to let them aid him; but he insisted he was all right, sprang to his feet, and died in a very few moments of paralysis of the heart.

The autopsy upon the patient showed great venous congestion of the lungs, the heart a third larger than normal, and the mitral valve consisted of practically only one large flap, which condition seemed to be congenital. This flap closed the orifice very well, so that there could have been but little leakage during life, and the closest questioning of the mother could bring forth no evidence pointing to any heart-trouble. Other organs were normal.

The author states that he has never read or heard of an accident of this kind. All the fatalities from this anæsthetic that have occurred have been in the chair and while under the anæsthetic, not six hours afterwards, and after a walk of a quarter of a mile, apparently in a normal condition.

TREATMENT OF ANTHRAX.

A. F. MATVEIEFF (*Khirürgitcheskaia Letopis*, December, 1894, p. 951) reports twenty-nine cases of anthrax admitted to the Riazan Zemsky Hospital during 1890–94. Of this number, twenty-four were treated by Jarnvosky's method,—that is, by subcutaneous injections around the pustule of a two- or three-per-cent. carbolic acid solution, 3 syringefuls (Pravaz) three times daily, with compresses soaked in the same solution. Seventeen of the patients recovered, seven died. All the fatal cases were first seen after all symptoms of profound systemic poisoning had already developed, some of the patients being brought to the hospital moribund. The remaining five were treated by excision of the pustule, with subsequent cauterization with Paquelin's instrument. All of them recovered.—*British Medical Journal*, February 9, 1895.

THE TREATMENT OF SCIATICA BY NITRO-GLYCERIN.

La Médecine Moderne for January 23, 1895, states that nitro-glycerin is a valuable remedy in the treatment of sciatica. The dose which should be given is 1 drop of a one-per-cent. alcoholic solution three times a day, although larger doses than this may be needed.

MIKHALKINE has reported three cases of rebellious sciatic neuralgia which were cured or much ameliorated by nitro-glycerin. In one case a patient aged forty-four years was attacked with violent pain in the sciatic nerve, extending from the trochanter to the malleolus. The pain was extremely severe and made sleep impossible. The attitude of the limb was characteristic. Salicylate of sodium, the bromide of sodium, antipyrin, acetanilide, and phenacetin with quinine were administered without effect, and the application of a blister to the painful point, along with a soothing ointment and massage, failed to do good. Even chloral at night gave the patient but temporary rest. The pain persisted for three weeks. The author then administered the following prescription:

℞ Nitro-glycerin (one-per-cent. solution), ♏iii to ♏xxx;
Tincture of capsicum, ♏xc;
Peppermint water, ℥iii;

and gave of it 3 drops three times a day for three days, and after this 10 drops three times a day. After the medicine had been administered for two days, the patient had a comfortable night and the pain was diminished. The amelioration of the symptoms progressed during fifteen days, the attacks of pain diminishing in intensity and the patient being able to walk readily. At the end of this time an attack of erysipelas with high temperature developed, which lasted for twelve days. During its presence the neuralgia disappeared, but returned with the fall of temperature and desquamation. Once more nitro-glycerin was administered, in the dose of 10 drops of the above prescription three times a day, and ten days later the patient left the hospital completely restored to health. There was not a great modi-

fication of the pulse produced by this dose, neither was there headache.

In another case this author treated a woman aged forty-five years, who had atheromatous blood-vessels and was very nervous, for sciatica of the right side, with which there was associated muscular atrophy and hyperæsthesia. After trying the bromide of potassium with galvanization and morphine, with an ointment of salicylic acid, without effect for five weeks, recourse was had to the nitro-glycerin mixture. After the patient had taken it for fifteen days an attack of malarial fever interrupted its administration and required the use of quinine. The excess of pain, however, forced a renewal of the treatment with the nitro-glycerin. After twelve days more treatment the patient was able to walk without suffering from pain. For the purpose of calming the neurotic condition the following mixture was given:

℞ Bromide of potassium,
Bromide of sodium,
Bromide of ammonium, of each, ʒi;
Distilled water, ʒiiss.
A teaspoonful of this three times a day.

A continuation of the nitro-glycerin mixture with this prescription entirely relieved this attack.

The third case was that of a man of forty years, who was brought into the hospital suffering from an attack of fever and violent pain in the lower part of the right leg. There was a quickened pulse and marked tenderness of the limb on palpation. 30 grains of the salicylate of sodium and 20 drops of the tincture of valerian were given internally and a blister applied over the trochanter. While this reduced the fever, it did not relieve the pain, and four days later the nitro-glycerin mixture was given, in the dose of 5 drops three times a day, increased finally to four times a day. After eight days' treatment the symptoms ameliorated very much, and after six weeks the patient was entirely cured, there being no return of the trouble for six months after.

CHLOROFORM IN TETANUS.

P. A. PREOBRAJENSKY (*Vratchebnyia Zapisky*, No. 7, 1894) relates four cases of acute tetanus treated by chloroform inhalations, which were repeated from one to three times a day, the daily dose of the drug varying from 2 to 4 drachms. In addition, hot baths and subcutaneous injections of morphine were occasionally employed. Three of the patients recovered; one succumbed from supervening catarrhal pneumonia on the seventeenth day of the primary disease. In all the cases the inhalations induced muscular relaxation, while the breathing became deep and regular and the pulse stronger and slower. The patients could be fed during the early stages of the narcosis, which also secured a quiet sleep of several hours' duration. —*British Medical Journal*, February 9, 1895.

THE TREATMENT OF TARANTULA-BITE BY THE MUELLER METHOD.

In the *Denver Medical Times* for February, 1895, TAYLOR states that at half-past five o'clock one morning he was called to see a woman who had been bitten by a spider, as the boy said who came for him. Arriving at the house, which was low and close upon the ground, he found a woman with a pulse of 144, very weak and thready, skin blue and cyanotic in appearance, and suffering great pain, which seemed to be paroxysmal. The left hand and forearm and left lower limb were swollen. He also found a mark or reddish-looking scar on left little finger near the knuckle-joint, and another scar of similar nature in the popliteal space of the left leg. Upon inquiry, he found that the woman had felt a tickling sensation about the space, and immediately threw off the covers and struck a very hard blow with the left hand, with the result that she killed a "spider," as the family called it. The patient thinks that she was bitten on the finger when she struck or made the blow; but he is inclined to the belief that she was bitten on the finger first. However, finding his patient in such a precarious condition, he easily made up his mind that the spider was a tarantula, and immediately gave $\frac{1}{60}$ grain of strychnine with $\frac{1}{100}$ grain of trinitrin hypodermically, knowing that the combined action would strengthen and stimulate the circulation, which would give him time to investigate the spider more thoroughly. He easily found the spider upon the floor, where he had been thrown after having been killed and badly crushed, but enough was left for one who had ever seen a tarantula to easily decide that it was a tarantula about one and a half times as large as a silver dollar.

About two months previous to this time Taylor had read in the THERAPEUTIC GAZETTE, of Philadelphia, an account of Dr. Mueller's experiment upon venomous bites by the hypodermic use of strychnine. Taylor resolved to treat the case by the Mueller plan, with the exception of the first dose, to which he added the trinitrin, for he had some doubts about the strychnine acting quickly enough upon

the heart. The circulation immediately responded to either the trinitrin or strychnine, but more probably both, and at the end of thirty minutes he gave another $\frac{1}{60}$ grain of strychnine hypodermically. The pulse meantime had come down to 100, with the characteristics of strychnine and trinitrin. The respirations had also improved with the improvement in the pulse. The paroxysmal pain was still severe, and would start simultaneously from the finger and popliteal space and go all over the body, lasting from one to three minutes, then from ten to fifteen minutes there would be apparent ease, and the patient would lie in a stupor. He waited an hour from the time of giving the second dose, and gave the third,—$\frac{1}{60}$ grain of strychnine this time. His patient had by this time improved so much that he ventured to leave for a while, as all of the alarming symptoms had now disappeared.

After 10 A.M. he again visited the patient, and found her resting very easily, except occasional pains, which were becoming further and further apart. She had eaten a little toast and tea during the time that he had been away, and said she "relished it."

He again visited the patient in the evening about five o'clock, and found the pulse down to 65 and the respirations averaging 14, with all the physiological characteristics of strychnine. At this visit he gave nothing. The paroxysmal pains in the finger and knee were still felt at times, but were not very severe or very frequent.

The next day, upon visiting the patient, he found that her pulse had again come up to 110 and respirations to 20, with a little swelling in the two limbs bitten and also more pain than on the previous day. He again gave $\frac{1}{60}$ grain of strychnine hypodermically. He gave $\frac{1}{60}$ grain of strychnine hypodermically on the third and also on the fourth day. Nothing of any note occurred after the fourth day, except a little rise in temperature, which was easily managed. On the sixth day he discharged the patient, but before doing so gave a strychnine tonic, which she took.

A few days ago, or ten months after the bite, he met the woman, and she told him that she had had some pain in the little finger and arm of the left side since, but not severe, and only for a few minutes at a time, and that otherwise she felt all right.

He has been tempted to report this case, feeling that some one in this region might have a similar one, and, if so, he would advise the use of strychnine according to the Mueller method.

BROMALIN.

LAQUER (*Neurol. Centralbl.*, January 1, 1895) alludes to the introduction by Bardet of bromethylformine as a substitute for the inorganic bromides, the object of the substitution being to avoid the skin eruption, fetor, and other unpleasant effects so often produced by the bromine salts commonly used. He further mentions that Fere's trial of the drug in a few cases of epilepsy indicates that it may be employed in much larger doses than ordinary bromides without causing furunculosis. His own observations confirm those of Fere. One of his epileptic patients took nearly 8 grammes daily for six weeks without showing any acne, loss of appetite, or other ill effect; the fits were checked to the same extent as when 3 to 4 grammes of potassium bromide were given daily. Bromethylformine (termed bromalin by Merck, the manufacturer of the drug in Germany) is represented by the formula $(CH_2)_6N_4C_2H_5Br$; its percentage of contents of Br is 32.13, that of KBr being 67.2. The author finds that two grammes of bromalin are equal to one gramme of KBr in reducing the number of fits.—*British Medical Journal*, February 9, 1895.

GUAIACOL IN DIPHTHERIA.

In the *Polyclinic*, S. SOLIS-COHEN highly praises local applications of this drug to the pharynx as a prophylactic against diphtheria. He says that diluted or undiluted guaiacol applied to the throat, stings, burns, and in some instances produces a sensation of strangling. This, however, even at its worst, passes off in a minute or so, sometimes in less than a minute. Previous application of cocaine—say two- to four-per-cent. solution—diminishes the unpleasant effect of the guaiacol. If a solution of menthol (five per cent.) in glycerin or olive oil is used to dilute the guaiacol, the painfulness of the application is much lessened. Liquid petrolatum may also be used; but the solution is not perfect and must be shaken up, giving some uncertainty of result. The application should be made quickly, and with firm but gentle pressure. The formula given below is that which he is now using, both in attempted prophylaxis and in the local treatment of diphtheria:

> Guaiacol (chemically pure), 50 parts (f℥x);
> Menthol, 5 parts (f℥i);
> Pure olive oil, 50 parts (f℥x).
>
> To be applied with cotton swab, once daily in prophylaxis, twice daily in treatment, or as needed.

CANNABIS SATIVA SEU INDICA,—INDIAN HEMP.

In the *British Medical Journal* for February 9, 1895, LEES writes of the value of this drug.

It has always been difficult to understand why the resin of this plant should alone be recognized in the British Pharmacopœia, more especially when we find it stated in works on the physiologic action of this drug that in India several preparations are used by the natives to produce its stimulating and exhilarating effects, among which watery infusions are specially mentioned.

During a short visit to India some years ago his attention was drawn to the fact that several modes of using the herb were employed by the natives,—modes not capable of extracting much, if even any, of the resin. So far as he could observe, watery infusions were commonly used, but whether in combination with other substances or not he is not in a position to state. This fact, however, led him to try what benefits might be derived from the use of a preparation of the plant, not depending on the resins alone.

Messrs. T. and H. Smith, who first obtained the resin in a state of comparative purity, state that "it is a brown amorphous solid, burning with a bright white flame, and leaving no ash; powerful in its action when taken internally, and that two-thirds of a grain act as an active narcotic, while one grain produces complete intoxication;" but the question might be advisedly asked, Is it completely freed from its essential oil? As a matter of fact, it is found that when the extract is kept for some time it becomes hard and brittle and less potent in its action, a circumstance which goes a long way to prove that such a condition is the result of loss of volatile oil from the resin, and pharmacists are advised to "lay aside and not employ for medicinal use that which has become old."

We are told by Bently and Trimen that "both Hindoos and Mohammedans use this herb, either by smoking—with or without tobacco in combination with other substances—or by simple infusion in water." The gunjah-guaza of our London market has but a faint taste, with a peculiar but not unpleasant narcotic odor. These properties depend in a great measure on the volatile oil and resin. The latter some consider the more important constituent of the plant.

In the watery infusion employed by the Hindoos and Mohammedans, as mentioned above, we can conceive of little, if any, of the resin being dissolved and held in solution, while, on the other hand, much of the volatile oil might be dissolved by the water, together with other constituents of the plant. Dr. Personne regards the volatile oil as the sole active principle, and in proof of this he states that "when the volatile oil is inhaled, a distinct sensation of shuddering with motor excitement, followed by prostration and syncope, is experienced." Again, Dr. Preobraschersky has found a volatile alkaloid most plentiful in the flowering tops, and which he considers somewhat similar in its action to nicotia or nicotine.

Feeling somewhat satisfied that water was capable of dissolving at least a portion of this volatile oil, and knowing that watery infusions of the drug were used for intoxicating and stimulating purposes in India, he has prepared a strong aqueous extract of the flowering tops of the female plant of the usual strength of liquid extracts, and from its use he has obtained good and satisfactory results. It possesses the anodyne and soporific action generally ascribed to the resinous extract, although in a modified degree. It has the characteristic odor of the hemp, has a beautiful deep and amber color, is miscible with water, and hence there is no difficulty in combining it with other liquids, and it presents no unseemly immiscible mixture repellent to a patient.

Liquor cannabis indicæ, in his experience, gives all the beneficial effects without the drawbacks of the tincture, avoiding those extreme exhilarating conditions, bordering on intoxication, which are sometimes met with even when using a medium dose of the latter. It does not seem to interfere with the secretion of mucus from the bronchial glands, a circumstance which renders it superior to opium in those cases suitable for its use, while in pulmonary affections generally it acts most favorably as a soporific and anodyne.

His greatest experience has been in the treatment of phthisis pulmonalis, and here he cannot speak of it too highly; for while it most perceptibly relieves the cough, it aids the patient by its stimulating and exhilarating qualities, supplying a remedial agent in a manner which, in his opinion, no other drug can so beneficially do. In indigestion and constipation and also in many of the affections of children, especially when nervous symptoms are present, it has also done good service. He does not presume for one moment that it will displace opium in those cases where severe pain is a prominent symptom, but he feels sure that in many cases where opium is at present used it may be substituted with great advantage.

The dose which he commonly uses is half a fluidrachm for an adult, but it may be increased to a drachm in many cases, while for children corresponding doses to age may be adopted, though he has noticed that children are somewhat less susceptible to it than adults.

He may state that fluid aqueous extract from the flowering tops of the female plant, already referred to, has been prepared for him by Messrs. Rankin and Borland, pharmaceutical chemists, Kilmarnock, and he may further add that to avoid as far as possible the presence of the resin in the extract, the use of heat is entirely avoided in the preparation. Messrs. Parke, Davis & Co., of Detroit (London house), have likewise prepared a liquor for him which he has also found suitable. Many other firms have sent him samples which are miscible with water, but he found on examination that these were only tinctures acted upon by alkalies, and gave the disagreeable reactions of the resin.

He trusts that having found this preparation beneficial in his own practice, and feeling satisfied that it is one which may be successfully used in many of the more common ailments affecting the chest, other medical men will be induced to give it a trial, and if proved by them equally beneficial, it may in future find a place in medical therapeutics.

THE ABSORPTION OF FERRATIN IN THE DIGESTIVE TRACT.

DR. PIO MARFORI (*Therapeutische Wochenschrift*, March 10, 1895) says that artificial ferratin is separated, from a physiological point of view, from other iron preparations, principally by the fact that it is easily absorbed and assimilated from the intestinal canal. Besides, it is identical with a combination of iron which is found in the animal organism under physiological conditions, and discovered by Marfori in the liver and in other organs,—natural ferratin. This iron remains stored up in the organs as reserve stuff to form blood.

The conditions of the mucous membrane of the stomach are of great significance in reference to the quantity of ferratin which can be absorbed. That absorption should occur, it is essential that the preparation should not be destroyed in the stomach or intestine, but sulphuretted hydrogen, which exists in large quantities in the intestine, may slowly attack ferratin and decompose it; hence experiments upon the absorption of ferratin may have different quantitative results, according as the greater or less intensity of decomposition processes exist in the bowel. Thus, Marfori found in his first experiments in the absorption of ferratin that this was 13.7 to 41.68 per cent. The absolute quantity of absorbed iron varied between 59.7 and 90 milligrammes. This large absorption is explained by the fact that the saline purgatives which were repeatedly given to the dogs before the administration of ferratin effected a good disinfection of the bowel. In fact, also, the explanation must be sought in the special anatomical conditions in which the intestinal mucous membrane is found some time after the effect of the purgatives named.

In animals in which the stomach and bowel are in their usual conditions, Schmiedeberg declares that the absorption of ferratin is pretty small. Without the administration of purgatives the absorbed iron was from five to twenty milligrammes. But under these conditions it is not possible to determine with certainty what quantity of iron remained from the preparation introduced and what was absorbed.

Marfori has performed the following experiments. Purgatives were administered to dogs to empty the bowel, and then they were placed upon milk diet exclusively. After several days ferratin was administered. Then the lower bowel was emptied by an enema. Under these conditions the results in three cases were as follows:

Experiment 1.—Amount of iron administered, 140 milligrammes; amount found in stomach and bowel, 104 milligrammes; absorbed iron, 36 milligrammes, or 25 per cent.

Experiment 2.—Amount of iron given, 91 milligrammes; amount found in stomach and bowel, 81 milligrammes; absorbed iron, 10 milligrammes, or 10.9 per cent.

Experiment 3.—Amount of iron given, 135 milligrammes; amount found in stomach and bowel, 94 milligrammes; absorbed iron, 41 milligrammes, or 30.3 per cent.

He thinks these experiments show that even animals under normal intestinal conditions can absorb ferratin in considerable quantities, although the limits within which absorption can occur are very wide.

Marfori has proved that when ferratin is injected into the blood in dogs in a greater proportion than ten or twenty milligrammes per kilogramme of body-weight, poisonous symptoms develop, and in large doses (twenty-five to fifty milligrammes of iron per kilogramme) even death is the result. But the continuous administration of iron does not lead to a dangerous accumulation in the organism. It is possible that if very large doses in proportion to the body-weight were given, and the condition

of stomach and bowel favored large absorption, that danger might result. In a dog a fatal result occurred in this way; but in the same proportion that the dog received it, a man would have taken one kilogramme in a month. Therefore the ordinary doses of 1 to 2 grammes a day present no danger.

Marfori states that his results have been confirmed from a chemical analytical point of view by Jaquet and Kündig. More recently Filippo de Filippi, working in Ziegler's laboratory, has declared that the absorption of ferratin from the digestive canal occurs *en masse*, which is true of no other iron preparation.

Langaard and Kobert have asserted that ferratin is decomposed in the stomach, but Marfori denies that this can occur under physiological conditions.

CHLOROFORM.

V. G. Stadnitzky (*Vratch*, No. 43, 1894) has carried out a series of elaborate experiments on seven healthy young men, in order to study the influence of chloroform, when administered internally, on the gastric functions. In each instance the experiment lasted fourteen days, being divided into two equally long stages, during the second of which the subject was given from 3 to 10 drops of the drug (with water) three times daily. The author's general conclusion is to the effect that $CHCl_3$ markedly improves all the functions of the stomach, which fact suggests that the drug might prove very valuable in the treatment of various gastric disturbances and, before all, in dyspepsia. —*British Medical Journal*, February 9, 1895.

THE TREATMENT OF HEMORRHAGIC METRITIS BY SALOL AND ANTIPYRIN.

Bralant states that Labadie-Lagrave has resorted with success in certain cases of uterine hemorrhage to the employment of antipyrin. The difficulty is to carry the powdered antipyrin into the cavity of the uterus, and for this reason the idea arose that liquefied antipyrin when mixed with salol might prove useful as a hæmostatic and antiseptic. The method of application consists in placing equal quantities of salol and antipyrin in a tube, which is then held over an alcohol lamp. The mixture is speedily transformed into a clear liquid, which has a somewhat brownish tint. This liquid is solidified by cooling. It is passed into the uterine cavity by means of some absorbent cotton which is wet with the medicament. A vaginal tampon of absorbent cotton wet with creosoted glycerin is also introduced and the patient directed to rest quietly. This application does not cause pain and is exempt from danger. The hæmostatic action is rapid and complete, so that it is rare for a second application of the antipyrin and salol mixture to be necessary. The treatment is efficacious in nearly all forms of uterine hemorrhage, such as those due to fibro-myoma, fungous metritis, and similar conditions.—*Revue Internationale de Médecine et de Chirurgie Pratiques*, January 25, 1895.

MILK DIET IN THE SEVERE INTESTINAL DISEASES.

In the *British Medical Journal* for February 9, 1895, George Thin writes on this topic. During a long experience of the management of certain climatic disorders of the intestine by exclusive milk diet, his attention has been much directed towards minimizing the difficulties inseparable from the treatment. Many persons have a strong dislike to milk, and he has often been met by the statement that the patient "has never been able to take milk in his life." One sufferer from a severe form of psilosis prefaced her statement of her case by telling him, "It is no use prescribing milk for me. I can neither take it nor digest it. All the medical men whom I have consulted have soon satisfied themselves that this is correct, and have been obliged to give me something else." For cases like that one he has found the use of aerated milk of inestimable value. So far he has only twice failed to succeed in getting a patient to go on exclusive milk diet. In one case, which was neither severe nor well marked, the diarrhœa did not rapidly yield, and the treatment was abandoned after a short trial; and another patient, who was doing extremely well, gave it up for no better reason than caprice, with disastrous results.

Another and sometimes a serious difficulty in connection with milk diet is the quantity of fluid which the patient must swallow. Many patients, especially when convalescing, take as much as six to eight pints daily, and even more without any difficulty, but there are others in whom the necessary quantity of milk suited to the case produces a constant feeling of distention, accompanied by troublesome flatulence. There are also cases in which the patient is very ill and his life in great danger, in which it is impossible to get him to swallow sufficient milk to sustain life. During the past summer he had a case of this kind under his care. A man who had been for two years suf-

fering from chronic diarrhœa acquired in Bombay, complicated with fistula and an unhealthy condition of the mucous membrane of the rectum, on which Mr. Herbert Allingham found it necessary to operate, fell into a low typhoid condition. The difficulty of getting him to swallow sufficient milk was so great, and his repugnance to it apparently so invincible, that the treatment was abandoned for three days, during which time an endeavor was made to support him on beef-juice. His condition became rapidly worse; there was incessant diarrhœa, the motions being passed involuntarily; the tongue was hard, dry, and cracked, the teeth covered with sordes, and the pulse quick and thready. We considered the chances for recovery to be very small. He seemed, indeed, to be rapidly sinking, but he was satisfied that if he were to be saved at all, it could only be by milk, and accordingly exclusive milk treatment was resumed. He could swallow only such small quantities at a time that it was found impossible to get him to take more than two and a half pints in twenty-four hours. The typhoid condition and incessant diarrhœa continued without improvement for forty-eight hours, and it became evident that unless more milk could be assimilated it was hopeless to look for recovery.

Thin then directed part of the milk to be evaporated to one-half its bulk, and by giving him this evaporated milk he was able to take at once the equivalent of three and a half pints in twenty-four hours, which proved sufficient to arrest the threatened collapse. Gradually, after a time, his condition began to improve, and he eventually consumed in natural and evaporated milk the equivalent of nine pints daily. He made a perfect recovery, and in five months was shooting grouse in Scotland.

He afterwards prescribed evaporated milk with excellent results in another serious case of wasting from long-standing chronic diarrhœa acquired in India. The patient, who had found it extremely difficult to swallow more than three pints of fluid a day, was able, by taking a certain proportion of his milk evaporated, to consume the equivalent of five pints, gradually lost his diarrhœa, and was able to digest solid food and gained strength proportionately. Other patients, not in the same immediate danger, have been allowed the option of taking part of their milk evaporated, and some of them have thriven on the concession. Others have had no difficulty in taking, and have preferred to take, the milk in its natural state.

The two severe cases alluded to above were examples of the chronic intestinal catarrh (not dysentery) which is common in India, and which is often described under the name of "tropical diarrhœa." "At the present time I have under my care a typical case of psilosis (vulgo "sprue") of long standing, which is steadily progressing towards recovery by the help of evaporated milk. By using part of the milk prepared in this way that patient is now able to take sufficient nourishment to enable the diseased bowel to recover. He has been under medical treatment more or less continuously for a number of years, but I gather from what he tells me that his occasional attempts to get well by milk diet were abandoned because he could not take sufficient milk to maintain the required minimum of strength. This induced him to supplement his diet by other articles of "invalid" food, and these invariably after a time brought on a relapse."

To evaporate milk properly for patients like these is a matter of some care. A simple apparatus has been made for me by James Allen & Son, 21 Marylebone Lane, W., consisting of a small regulating-spirit lamp, with a wire stand for holding an enamelled pan, containing the milk, at a convenient height from the flame. The heat may be increased or diminished at will by the regulator on the lamp. The milk should be heated rapidly, but must not be allowed to reach the boiling-point, and in this pan ten ounces can be reduced to five in half an hour. It must be stirred continuously after it gets warm and until it has become cold, to prevent a skin forming. If the cream is allowed to come to the top, the milk takes longer to evaporate and the taste is not so good. When the evaporation is properly effected, the cream remains mixed in the milk as usual, but, of course, rises on standing. The milk should, therefore, be stirred before being drunk. Evaporated in this way it has a richer taste and looks richer than ordinary milk, but is not unpalatable. It gets sour more quickly than fresh milk. The process consumes a good deal of time and requires constant attention.

"SALAKTOL" IN DIPHTHERIA.

WALLE (*Deut. Med. Zeit.*, November 15, 1894) introduces to notice "salaktol," a new remedy for diphtheria, which he has used with striking success. The remedy consists of a combination of hydrogen peroxide with sodic salicylate and sodic lactate. In a series of fifty-two cases, including every variety of the disease, and occurring in patients of every age and of both sexes, not a single one ended unfavorably. These cases included twenty-six children of

ages from six months to sixteen years, nineteen women and girls aged eighteen to thirty-eight, and seven men aged nineteen to sixty-two. Some of these cases were simple from the onset onward; others were grave, with much œdematous swelling; while others, again, were complicated with scarlet fever. The treatment consisted in careful and systematic pencillings of the affected parts of the throat with "salaktol" every three hours (every two hours in severe cases), in the use of the remedy as a gargle meanwhile, and in tablespoonful doses of it taken after each pencilling. In little children, the very timid or greatly prostrated, and patients with narrow throats, the pencillings were omitted in favor of "salaktol" inhalations every two hours, conducted for a quarter of an hour each time, with the needful rests. Febrifuges, such as antipyrin, antifebrin, etc., were only given in addition in exceptional cases where the temperature remained obstinately at a high level. Owing to the rapid disinfectant, loosening, and solvent action of "salaktol" on the diphtheritic membranes, these remedies were rarely required. The temperature quickly fell, with speedy disappearance of the swelling and concomitant symptoms, headache, backache, pains in the neck and limbs, etc. Moreover, no sequelæ was observed, no paralysis, no nephritis, no transference to a neighboring organ. The author claims that the very first pencilling improves the throat conditions, and in many cases the patient was nearly well in two or three days. Details of five cases are given, showing its rapid healing action.—*British Medical Journal*, December 1, 1894.

INTESTINAL ANTISEPSIS AND THE MANAGEMENT OF THE BOWELS.

In the *Boston Medical and Surgical Journal*, SHATTUCK contributes a paper with this title, of which we publish an abstract. In regard to so-called antiseptic treatment, he says that sepsis and antisepsis are nowadays words to conjure with. We have learned much of late years about the *rôle* played by organisms and their products in the causation of anatomical change and of perversion of function. We are so impressed by the results which, in surgical affections particularly, have followed this increase of knowledge, that we may be in danger of allowing zeal to outrun common sense. The pathogenic germ of typhoid fever seems to have been identified. We know its habitat in the body, something of its mode of entrance, and much of what it does, and it naturally occurs to us to try to destroy it *in situ*, or at all events to neutralize its action; hence the use of intestinal antiseptics so called, agents which are so insoluble that they can reach the intestine and there tend to check putrefactive or fermentative changes. It seems there can be no question that we are able to favorably modify faulty intestinal chemistry by means of these agents in many cases of intestinal indigestion; but there are certain facts of which we must not lose sight. In the first place, decomposition is physiological in the intestine. Secondly, its existence depends probably on the presence of organisms, destruction of which, were it in our power, would be a serious detriment to any person, sick or well. Thirdly, whatever the future may have in store for us, we have at present no means of directly interfering with the activity of the Koch-Eberth bacillus without interfering with the activity of the physiological intestinal microbes. Fourthly, the Koch-Eberth bacillus does not limit its residence in typhoid fever to portions of the intestine which can even theoretically be acted on locally. Again, obviously disordered intestinal action is by no means so invariable as the books would make us believe in typhoid fever, unless the writer's experience is very exceptional. Analysis of two hundred and thirty-three cases of typhoid fever which have been under his personal care in hospital during the last eight years shows the state of the bowels to have been as follows: diarrhœa a prominent symptom in eighteen and a half per cent.; diarrhœa a transitory symptom in eighteen and a half per cent.; regular bowels in fourteen per cent.; constipation, usually relieved by enemata, in forty-nine per cent.

Still further, there is no evidence to show that the disease can be aborted by early purgatives,—calomel, for instance,—followed by more or less continued intestinal antiseptic treatment; nor have we any reason to believe that relapse is less frequent in cases systematically thus treated. It seems to follow inevitably from the above that there is no justification for the routine employment of this class of drugs in typhoid fever, inasmuch as evidence is lacking that they can exert any influence here, other than that which they may exert in any other disease characterized or accompanied by intestinal lesions or disordered function. Their use, therefore, should be limited to cases in which diarrhœa, very offensive movements, meteorism, or other special indications are present. Thymol, 30 grains or so a day, is highly recommended by F. P. Henry. Naphtalin cannot be recommended; it produced strangury twice and hæmaturia once out of

seven cases in which the writer used it, though the doses were larger than would be given today. Dr. Peabody, of New York, used it largely at one time, but has now entirely abandoned it, and employs the cold bath in its stead. The writer uses small doses of the salicylate or subgallate of bismuth. The former may be combined with beta-naphtol. Of course, the astringent properties of the bismuth compounds are to be remembered. He often orders a preliminary dose of calomel, especially in cases which come under observation early and without pronounced diarrhœa. In cases characterized by constipation he resorts to water enemata every second day. Glycerin enemata cause so much peristalsis in some people that they are not advisable in typhoid fever. It is the author's habit in cases of intestinal hemorrhage to administer morphine to the point of mild narcotism, with the idea of arresting peristalsis as far as may be, and thus, perhaps, limiting the amount and duration of the bleeding. Laparotomy does not hold out much hope of rescuing the patient suffering from general peritonitis following perforation. A local peritonitis may get well spontaneously, or any abscess which it may cause can be opened later.

In regard to the antipyretic management of the disease, the term is really not applicable, for there can be no question that the fever in itself is not so dangerous as we formerly believed. Cardiac exhaustion is not the result of pyrexia so much as of the absorption of toxins, and in mere reduction of temperature we are not necessarily serving our patient. Even the increased comfort which such reduction may produce can be too dearly bought. The internal antipyretics thus far in common use are dangerous drugs in typhoid fever. One and all they are cardiac depressants in greater or less degree. Another objection to their use, less vital, though still real, is that they obscure diagnosis. The reporter has repeatedly seen cases in consultation where these agents seriously increased the difficulties in deciding whether a patient had typhoid fever, or, if he had typhoid fever, in determining the period of the disease or the presence of relapse. Now and then he sees a case in which the discomforts of the pyrexia or headache are such that an occasional dose of an antipyretic seems justified, but these cases are quite rare. Phenacetin he believes to be the safest of these thus far in common use. Dr. E. G. Cutler has been using this summer lactophenin in 15-grain doses every four hours, and expresses himself as so far pleased with its effects. It differs from phenacetin in that lactic takes the place of acetic acid, and it is said to be less depressing.

The average typhoidal symptoms are not today in the writer's wards what they were when he was an interne twenty-odd years ago, nor is the mortality nearly as high. He believes that the cold spongings count for much in this gain. In military hospitals and in private practice the mortality should be lower than in a general urban hospital, which receives patients late in the disease, often with constitutions undermined by drink and privation. But our results are not as good, and the only explanation is our failure to adopt and fully and intelligently carry out Brand's principles. Of two hundred and thirty-six cases treated expectantly by the writer and with cold spongings, twenty-three died, a mortality of nearly ten per cent. In the summer of 1893, Dr. E. G. Cutler had a bath-tub put in the male ward, and Shattuck continued its use when he succeeded him, and is still using it; but in this period his number of bathed cases is too small to enable him to draw any conclusions. Nearly all the patients object to it, some bitterly; but this is far outweighed by statistics, from which there seems to be no escape. With the cold bath in private practice he has had no personal experience, principally because he has not had a case of typhoid fever in his own practice for several years, though he has seen many cases in consultation; but it is his belief that we shall find the objections to its use less formidable than we are now inclined to think them. Sihler's experience speaks in favor of this view. For some years the cold spongings have been made much more efficient in the Massachusetts hospitals by rolling up the rubber sheet placed immediately under the patient at the sides so as to form a trough. Water at 60° F. is used; sometimes water with a little ice in it to make up for the heat absorbed from the body. One attendant can use cold water in this way, while two are almost indispensable for the tub-bath, with affusion to the head and friction to the body. The cold wet pack can also be given by one attendant. Baruch cites Liebermeister's assertion that five wet packs of ten minutes each are required to abstract as much heat as one full bath for fifteen minutes. Within the last fortnight these three methods of using cold water have been tried successively on several patients in the ward in order to contrast the results. These show no marked or constant difference in the antipyretic value of cold sponging at 60° F. for twenty minutes, the cold-pack at 60° F. for fifteen minutes, or the full bath at 70° F. for ten to fifteen minutes. A full bath at 60° F.

has a much more decided antipyretic effect. A temperature of 102.5° F. is considered as an indication for cold water.

After all is said, the argument for the strict Brand method is that a mass of statistics from different observers in different parts of the world show better results under its use than those who do not use it can bring forward. A. L. Mason reports that of six hundred and seventy-six cases entered on the books of the Boston City Hospital as typhoid fever in 1890 and 1891, treated with spongings and expectantly, the mortality was 10.4 per cent., and he wisely cautions us against drawing conclusions from small numbers of cases. The author's statistics afford a good illustration of the need of this caution. In the years 1886 to 1888 inclusive, one hundred and twenty-nine cases of typhoid came under his care in the hospital, with a mortality of 8.5 per cent. His service was then changed from the summer to the winter term, and in the next five years one hundred and four cases came under his care. In these the mortality was nearly 11.5 per cent., practically three per cent. higher, and yet cold sponging was much more efficiently practised in the latter than in the former series. A few cases brought moribund to the hospital, or an accidental series of the graver accidents of the disease, make a great difference in small totals.

The use of alcoholic stimulants calls for the exercise of more or less judgment. In a considerable proportion of cases they are never required unless the tub-bath is used, reaction from the temporary depression so often following this method of the application of cold water being hastened by small quantities of spirits and water.

THE DIET OF EPILEPTICS.

The influence of diet upon epilepsy is a matter of peculiar importance in the treatment of the disease. In a certain sense epilepsy is always reflex. The starting-point of a fit must be looked on as an extrinsic irritation, and in many cases it arises from indigestion. Errors in diet, however, probably influence epilepsy in other ways than this. The portion of food which is absorbed may be injurious, besides that which, remaining undigested, acts as an irritant. There is a good deal of clinical experience in favor of supplying a minimum quantity of meat in cases of this sort, not on account of its producing indigestion, for it is often digested quite well, but because of its imagined effect in increasing the "irritability" of nervous structures, a somewhat hypothetical property, but one based on the same sort of rough observation as is the well-recognized relation between corn and skittishness in horses. The interest of this subject has led us to make inquiries as to the food given to the patients at the epileptic colony at Chalfont St. Peter, and by the courtesy of the secretary we have been furnished with the daily dietary for a fortnight. Breakfast was on each day the same, consisting of oatmeal porridge, with new milk or sugar, tea, and bread and butter. Dinner consisted of roast or boiled or hashed beef or mutton, with cabbages and potatoes, followed by a rice-, sago-, tapioca-, suet-, or jam-roll-pudding. Tea was accompanied with bread and butter or dripping, or sometimes golden syrup, or currant cake. Supper generally included some pudding, with milk and bread, varied occasionally with soup instead of pudding. On Fridays fish was given instead of meat. It must be noted that all the inmates are men. At the present time they are nearly all engaged in out-door work for a considerable number of hours a day, which probably enables them to assimilate without difficulty a somewhat freer diet than would be possible in other conditions: and it is not improbable that the improved nutrition, due to the combination of active work with a dietary better than could be digested in a sedentary life, may be a not unimportant factor in relieving the disease.—*British Medical Journal*, December 22, 1894.

ABDOMINAL HYSTERECTOMY.

BINKLEY (*American Journal of Obstetrics*, April, 1895) summarizes the indications for extirpation of the uterus in cases of pyosalpinx and allied conditions as follows:

The uterus is a part of the pathological mass. It is in the majority of cases the centre of infection, and it frequently causes infection by direct transmission, through its lymph channels, from the mucous membrane to the peritoneum. Have we a right to expect or assume that these germs which are left in transit will "work out" without infecting the patient, simply because the appendages have been removed? Certainly not.

Malignant disease of the uterus is prone to occur, germs of tuberculosis are harbored, and menstruation excited.

The uterus has lost its support above, rests upon the pelvic floor, and will almost certainly be displaced and become adherent to the intestines or omentum.

When the uterus is removed the operator has

a clean and unobstructed view of the whole pelvic cavity, and may easily locate and check any bleeding and close up a completed operation, or, if necessary, the drainage may be from below, as the writer has done in one case.

These seem sufficient reasons to justify the removal of the uterus with the tubes and ovaries.

CASTRATION FOR PROSTATIC HYPERTROPHY.

The *Norsk Magazin for Loegevidenskaben* for January, 1895, contains two contributions to this subject. RAMM, who was one of the first to practise this method, has performed the bilateral operation five times successfully. Considering the risks of catheterization in the patient's own hands, the author considers the operation quite justifiable, especially in thinly populated districts (the author resides in the most northern county in Norway), where it may be quite impossible for the patient to get timely medical aid should he fail to pass the catheter himself. But having noticed on several occasions after unilateral castration for various causes that the corresponding half of the prostate had become distinctly atrophied, Ramm suggests that in cases where an asymmetrical hypertrophy can be distinctly diagnosed, it would be more conservative to excise only the corresponding testicle at first. Of the five cases, only the last operated on is reported in the present publication. This was in the case of a man aged fifty-seven, who had difficulty in micturition for eight to ten years, and absolute retention for about ten days before he came under observation. This had been relieved by catheterization by a medical man. The patient himself was unable to pass the catheter. He was found to have a symmetrically enlarged prostate, a dilated bladder, and severe cystitis. The bilateral operation was performed; the testes contained living spermatozoa. In spite of the obstinate cystitis, the patient, on leaving the hospital about a month and a half after the operation, could retain his urine many hours; he only passed water from four to seven times during the twenty-four hours. The prostate was considerably smaller and flatter. When seen five months later he had resumed his work as a fisherman, and had no difficulty in urination since leaving the hospital.

KOREN and KOREN report the following case: A man, aged sixty-six, had for about a year suffered from symptoms of prostatic hypertrophy, including constipation. The prostate projected considerably into the rectum; it measured four centimetres in height and about six centimetres in breadth. Double castration was performed. During the first fortnight after the operation the bladder had to be emptied by the catheter; micturition did not occur spontaneously until the fifteenth day, although a diminution in the prostate (three centimetres by four centimetres) was noticed on the seventh day. The catheter was used for some time after micturition had returned, on purpose to measure the residual urine. This decreased during the consecutive three months from eight hundred and eighty cubic centimetres to fifteen cubic centimetres. At the end of this time the prostate measured only two centimetres by three centimetres, and the patient was relieved from all his symptoms, including the constipation.—*British Medical Journal*, March 16, 1895.

INJURED URETERS IN ABDOMINAL SURGERY.

BACHE EMMET (*American Journal of Obstetrics*, April, 1895), in removing a large solid mass attached to the fifth lumbar vertebra, severed the left ureter at that level.

The cut ureter was quickly recognized by the appearance of urine. An attempt to attach the proximal to the distal end after the method of Van Hook was first attempted. This was not easy, since the proximal end was greatly dilated; therefore a long slit was made in the distal end, the extremity tied, and three double sutures at three equidistant points in the circumference of the upper extremity of the tube, at about half a centimetre from its end, were so arranged that by pulling upon them the tube would collapse at three points. The three double sutures were passed into the slot of the lower tube and through its walls at three equidistant points also; and, by this means drawing upon the sutures, he gathered the larger extremity into the calibre of the smaller one, which stretched to admit it. By ligating these sutures, he fixed the one tube within the other. The edge of the slot was next stitched to the upper portion of the ureter by a running suture; then bits of parietal peritoneum were gathered about this work and stitched here and there, trusting to rapid plastic exudation to seal up the joint. The author used the peritoneum of the tumor stump for his grafts.

This method proved effectual, and the patient recovered without showing any untoward symptom.

REMOTE RESULTS OF REMOVAL OF THE GASSERIAN GANGLION.

E. DOYEN (*Flandre Méd.*, No. 3, 1894) reports the remote results of section of the trigeminal nerve in the case of a woman on whom he operated more than a year ago. He performed intracranial section of the trigeminal and total ablation of the Gasserian ganglion. The patient is now perfectly well, suffers no pain, and presents no appreciable symptom, except insensibility of the cornea and of one-half of the face. There are no trophic disturbances; the function of the eye on the side operated on is absolutely intact; vision is perfect.

SECTION OF THE TRIGEMINAL NERVE FOR NEURALGIA.

TANSINI, of Palermo (*Rif. Med.*, November 12, 1894), reports the following case: A man, aged sixty-seven, who had suffered severely from malaria in childhood, was seized some eight years before coming under observation with violent pain affecting the whole of the right half of his face; the attack lasted a few seconds and came on once every two or three days. Gradually they became more frequent, till two years ago they occurred so often that the patient had only a few minutes' freedom from suffering during the day. In 1893 the patient came to the medical clinic, and was treated first with quinine and then with arsenic, but without benefit. He was then transferred to the surgical clinic, where marked relief was given by the application of the continuous current in the course of the branches of the trigeminal. Some time afterwards, however, the pains returned worse than before, and the patient was readmitted to the clinic in a state of great suffering, wasting, and exhaustion. The attacks were then so frequent as to be almost continuous. The painful points corresponded to the supraorbital, infraorbital, and mental foramina. Every attempt at mastication or speech brought on a paroxysm. Stretching of the facial nerve by Hueter's method was first tried, but with only the slightest and most transient benefit. Tansini next performed neurectomy of the branches of the trigeminal at their points of issue, followed by the application of the actual cautery to the central stump, reserving the more serious operation of neurectomy at the base of the skull in the event of this procedure proving inefficient. The operation was completely successful, and up to the date of report (about six months after the operation) there had been no return of the pain. In two other cases of a similar nature, Tansini adopted the same treatment with equal success, the patients having remained for four years in perfect health and free from pain.—*British Medical Journal*, March 16, 1895.

OPERATION FOR LACERATION OF THE CERVIX UTERI.

J. DUNCAN EMMET (*American Journal of Obstetrics*, April, 1895) states that four points are essential to success: to remove all abnormal tissue, not only from the angles of the laceration, but from any other part as well; not only from the so-called "cicatricial plug," but also the cystogenic tissue which frequently surrounds the former in old injuries; to maintain the continuity of the mucous lining of the cervical canal down to the new external os; to insert the sutures in such a way that all denuded surfaces are brought into apposition, and that no "pockets" are left below the sutures; and, finally, so to direct the sutures that the loop of each shall impinge upon and closely approximate the denuded edges of the canal on both sides and throughout its length. This direction of sutures has been aptly likened to the arrangement of the spoke in a fan, and thus is the mid-position and straightness of the canal maintained, the formation of pockets avoided, and the conical shape of the cervix restored.

An important point, though not an essential one, upon which Dr. Emmet has laid stress, is that the operation should be performed with the patient on the side in Sims's position. The advantage of this over the dorsal one is that in the former the levator ani muscle, as well as all the pelvic fascia, may be completely relaxed by the use of the speculum, thus allowing the fullest expansion of the vagina without disturbing the normal position of the uterus in its relation to the surrounding parts. The cervix here may be operated upon *in situ*, while in the dorsal position it must be drawn down to the ostium vaginæ,—an unnatural and strained position for the organ. It is not reasonable to suppose that the uterus, the broad ligaments, and the vessels which supply them will not suffer, at least temporarily, from this strain. Moreover, the position is unnecessary, while the Sims's position fulfils all the physiological and mechanical requirements.

Assuming, then, that the operation is done in the lateral pose, the first step is to fix the cervix by a tenaculum stuck into the upper half of the lower lip of the tear. It is an advantage to begin incising at the more dependent or lower half of the laceration, because the operator

thus has a clear field, free from the blood which would constantly obscure it were the upper angle first attacked. Gauging the width of the proposed canal, which should rarely exceed one-third of an inch, the operator makes his first incision, with scissors, at the inner edge of the lower lip of the laceration and at a sufficient distance from the middle line to leave an undenuded strip of mucous membrane equal to half the width of the canal. The direction of this cut should be parallel with the trend of the canal and should reach to the bottom of the laceration. The surgeon then works his way towards the angle, finding and removing all morbidly dense tissue by cutting around and under it, as in coring out a corn or wart. In this process the point of the scissors or the direction of the cut must always be towards the canal, because, the cervix being circular, we shall quickly find that our incision has extended through that organ and into the surrounding connective tissue, or even to the peritoneum, if this rule be neglected. This is the more important to bear in mind, because the eversion of the lips and the sweep of the vaginal mucous membrane outward from the cervix are apt to give us a very erroneous idea of the true size of this organ above its vaginal attachment, and a cut which should apparently lead us directly into cervical tissue will often end far outside it.

The process of excision is continued around the angle and along the inner side of the upper lip of the laceration until it reaches a point directly opposite the situation of the first incision, where the limits of the canal were marked out. An edge of undenuded mucosa is here left, as was done on the lower lip, and we now have a more or less deep cavity of irregular shape and surrounded by normal cervical tissue. If all the morbid tissue be removed, this cavity will frequently extend up to, if not beyond, the os internum. The other half of the laceration is treated in precisely the same manner as that described, and when this is accomplished we should find two cavities separated by two opposed strips of undenuded mucosa, continuous with the uterine lining, and of an equal and regular width.

The first suture should be inserted in the following manner: using a long, lance-shaped needle, slightly curved at the point, we begin on a line with, but a little outside the extreme angle of, the wound on its vaginal surface, directing the needle inward in such a course that its point emerges at the angle formed by the continuity, at the bottom of the cavity, of the two strips of undenuded mucous membrane left for the formation of the future canal. (It should be borne in mind that these strips of cervical membrane are the rallying-point for all the sutures in this operation.) When the needle has been drawn out with its accompanying suture, it should be reinserted close to the place of its emergence and its point directed through the opposite flap of the laceration outwardly, until it appears on the vaginal surface of the cervix at a point exactly similar to that of its first entrance at the opposite side of the angle. This suture, throughout its course, must pass beneath the bottom of the cavity deeply through the tissues, and it is a radical error if anywhere it be exposed from its entrance until it emerges at the canal or from this point until it reaches the vagina again. This is equally true of all the other sutures; and, although the rule is one of general surgical application under similar conditions, neglect in this operation is one of the most frequent causes of failure. It is thus that the formation of "pockets" occurs.

The second stitch is introduced about a quarter of an inch or less from the first one on the outer edge of the lower flap; it picks up the edge of the strip of mucous membrane a little above the site of the first suture, is reintroduced at a corresponding point on the opposite flap, and terminates on the vaginal surface directly opposite its original insertion. The next one is passed in precisely a similar manner, and it will be noticed that with each one the nearer it approaches the middle line of the cervix the acuter is the angle formed between it and the axis of the canal. The last or "crown" stitch on each side has a different direction from all others; it is introduced not only immediately into the canal, but its course is parallel to the latter's axis. It extends about a quarter of an inch below the os externum, and when tightened serves to roll in the everted lips. In describing the suturing of one side we explain both, for the operation, even though the injury may be less extensive on one side than on the other, is essentially bilateral in method. As to the tissue removed, all of the morbid tissue should be extirpated. This is necessary. If any of this tissue be left, the patients will not be cured of the symptoms for which the original operation was performed, yet it is not safe to leave any such tissue for absorption. In a few cases where, from the great depth and extent of the laceration, extending above the internal os, Emmet left some of this tissue at the bottom of the excavated angles, with the expectation of absorption, he was obliged to resort to amputation before a cure was effected. When it is demonstrable by the sense of touch (as

with the thumb and forefinger, or with an instrument in the canal in place of the latter) that the canal on both sides is free of hard tissue, and when we are able to remove such tissue completely from the body of the cervix, then, no matter how extensive or how deep the incision, Emmet's operation is indicated. When there is hard tissue behind the canal, or when we find that we cannot remove this product completely from the rest of the cervix with any hope of introducing our sutures properly in the confined space of our excavation, then is amputation indicated.

WHEN SHOULD CONGENITAL CLEFT PALATE RECEIVE SURGICAL TREATMENT?

CASE (*Journal of the American Medical Association*, March 30, 1895) presents an extremely instructive paper upon this important topic. He shows that a permanent closure of the fissure by uniting the tissue along the border of the cleft is not successful unless there is provided thereby a palate which, in conjunction with the pharyngeal muscles, will enable the patient to forcibly expel all the air which is the vehicle of the voice through the mouth, and often through a narrowed opening, with intensified force,—as in speaking the words hiss, hug, etc., and in those vocal interruptions which can only be perfectly produced by a complete closure of every avenue of escape of an accumulated pressure of air, with the production of a sudden vocal explosion at the lips, or between the tongue and different locations along the roof of the mouth or palate, as in pronouncing the letters *b*, *t*, *k*, etc.

The principal object of the patient in submitting to operation is for the purpose of perfecting or benefiting articulate speech. With a surgical method of treating cleft palate when performed later than infancy or very early childhood, this result is attained only in most exceptional cases. The promise of improvement is certainly so slight that the most skilful surgeon is not warranted in operating on patients older than twenty, or even ten where the cleft extends partially through the hard palate and with the tissues of the soft palate comparatively scant from non-use during the age of its growth and development.

Surgical treatment for congenital cleft palate should be undertaken as soon after birth as safety to life will warrant. After five years of age, be the cleft great or small, the operation should be performed only in those rare instances which promise an unquestionable result in the desired length and mobility of the united velum palati.

The artificial method of treating congenital cleft palate for patients under eighteen or fifteen years of age can be relied upon when skilfully performed, as furnishing a sure means by which may be attained perfect vocal articulation, free from the undesirable nasal tone which is characteristic of this deformity. Though the same success cannot always be promised at a more advanced age, a decided improvement invariably results where the artificial palate can be developed according to the needs and possibilities of the muscles and where the patients are persistent in their vocal exercises. It is, unfortunately, true that a surgical operation, even though it perfectly and completely unites the hard and soft palates without providing for sufficient length of the velum, makes the subsequent application of an artificial palate more difficult and less satisfactory.

SPINAL SUPPORTS.

PHELPS (*New York Medical Journal*, March 30, 1895) concludes an article with the above title as follows:

He offers the aluminum corset not as a substitute for many of the braces and corsets now worn in the acute forms of Pott's disease and lateral curvature; he suggests it rather to take the place of such braces in cases requiring permanent bracing, or in individuals who are desirous of securing a support at any time which combines durability with lightness and comfort. So soon as a case of lateral curvature has been arrested, or the greatest amount of benefit has been derived from treatment, the aluminum corset will then be found a most agreeable permanent support. The following qualities recommend the aluminum corset: lightness, durability, and the fact that it is thin, and does not interfere with the form and clothing. Being extensively perforated makes it the coolest and most agreeable of supports. The patient can wear it during bathing.

An ordinary corset weighs from one to two pounds, depending upon the size. To prevent cracking and to protect it from perspiration, it is covered with a water-proof enamel, which is applied by heat.

The steps of its construction: make a plaster form of the body; send this form to the foundry and have a cast-iron anvil made; polish this, and then at a certain temperature the workmen will bend on to it two sheets of aluminum, representing the two lateral halves. The frequent heating and hammering, together

with the cylindrical shape, make the corset almost as strong as steel. The two halves are hinged in the back and closed with automatic clasps in front, which stop at any notch to accommodate themselves to the body before and after eating. This corset completes the author's armamentarium in cases requiring spinal supports,—viz.:

1. Plaster-of-Paris corsets for acute Pott's disease.

2. The wood corset for lateral curvature and cured or convalescent cases of Pott's disease.

3. The Beely corset for mild forms of lateral curvature, particularly in girls.

4. The aluminum corset for permanent bracing.

5. The celluloid corset, which, in a way, takes the place of the aluminum.

The writer has found it very difficult to obtain proper materials for the construction of the wood corset in this country. The spruce timber which grows about Vienna makes a better shaving than any indigenous timber so far employed. It is tougher and works better with the glue.

An impression is made of the body with plaster bandages. This mould is filled with plaster of Paris, which makes a perfect cast of the body. The corset is now made over this cast. The cast is changed somewhat in shape to make the form even straighter than the body in the suspended position.

The writer has the corset perforated, in which perforations eyelets are punched. A special machine facilitates the perforating and the punching of the eyelets. The lacings are stitched on. Trim the top and bottom with kid. The entire corset is covered inside and outside with two or three coats of shellac, which render it impervious to moisture, the eyelet holes ventilating it perfectly. The improvements which the writer has made in the corset consist in coating it with shellac on the inside and outside and putting eyelets in the eyelet-holes, which add to the strength of the corset and ventilate it perfectly.

An ordinary corset for an adult weighs from a pound to a pound and a half. They are very durable, very comfortable to wear, and thus far appear to be the best spinal braces yet devised.

CEREBRAL HEMORRHAGE AND ITS SURGICAL TREATMENT.

LANPHEAR (*Journal of the American Medical Association*, March 30, 1895) quotes Edes to the effect that the most common form of intracranial hemorrhage has its seat in the white substance of the brain, which is consequently more or less lacerated. The vessel which most frequently bleeds is that which is given off from the middle cerebral and runs along the outer side of the nucleus lenticularis, where it is covered by the internal capsule; hence the large number of clots found in the white substance of the internal capsule. Therefore, when a hemorrhage is not found as a meningeal or subcortical lesion as anticipated, this is the point to be sought if the symptoms indicate the middle fossa. If the clot be located outside the internal capsule, it may be removed with comparative safety through a large opening in the skull, three or four inches by one and a half or two. Hemorrhages into the thalamus opticus usually originate in the posterior communicating artery or the posterior cerebral, and are too deep to be reached.

Lanphear states that the following rules will be found useful in deciding whether or not operation is justifiable when the diagnosis of cerebral hemorrhage is clearly established.

When there has been a blow upon the head, and hemiplegia, aphasia, or hemianopsia follows, there is nearly always a hemorrhage which may be reached by opening the cranium at the point indicated by cerebral localization.

A slight premonitory attack, affecting speech temporarily or producing a heaviness of the hand or foot (or both) for a few minutes, if followed by hemiplegia, may be taken as a good point in favor of operation, as the bleeding vessel is probably on the surface or very superficial.

When the case presents a history of moderate loss of power, or even complete hemiplegia without loss of consciousness, followed in a few hours by the sudden appearance of coma, or a marked fall of temperature succeeded by some fever, a hemorrhage has broken into the ventricles or just beneath the meninges, is still progressing, and indicates immediate trephining; a day or two afterwards will be too late; so, if done at all, it should be performed within a few hours, if possible.

Bilateral hemianopsia (blindness of corresponding sides of both eyes) appearing suddenly is apt to be due to a hemorrhage in the occipital lobe of the opposite side, sufficiently large to be easily found, and justifies exploratory operation.

Vomiting, severe occipital headache, and vertigo, with or without distinct paralysis, with ocular symptoms of nystagmus or strabismus, appearing suddenly, render a diagnosis of cerebellar hemorrhage probable and indicate exploratory trephining.

Paralysis of the third, fourth, fifth, or sixth pairs of nerves indicates a lesion of the pons and contraindicates operation.

Paralyses of very limited extent, especially if complete, are not often due to hemorrhage, being rather local palsies, the peripheral symptoms indicative of cerebral disease.

A very severe headache, followed by gradual but persistently deepening coma, with hemiplegia becoming more and more nearly complete, means a hemorrhage into the great basal ganglia, beyond surgical help.

Very sudden and complete hemiplegia and coma (coming on as if the patient were struck with a hammer) contraindicate operation, particularly if the patient be under fifty years of age; the disease is probably embolism; heart lesions, endoarteritis, a septic process, and syphilis strengthen the probability.

Profound coma and relaxation without hemiplegia usually depend upon injury of the pons and decide against operation.

According to Hughlings Jackson, convulsions, early rigidity, and conjugate deviation of the eyes of a spastic form are conclusive evidences of superficial hemorrhage. But convulsions always accompany cerebral hemorrhage in young persons, regardless of location.

As an assistance in locating the clot, Durand-Fardel's figures may be quoted. Of his cases, the hemorrhages were: in the ventricle, 66 times; in the meninges, 31; in the corpus striatum and thalamus opticus, 22; in the white substance of the middle lobe, 18; in the corpus striatum alone, 13; in the corpus striatum and hemisphere, 12; in the anterior lobes, 11; in the posterior lobes, 11. From which we see that a considerable proportion may be regarded as within the reach of the surgeon.

As to the operation, the opening in the skull should be large,—two by three inches over the area involved. The dura is then incised and turned back, and search made for superficial bleeding, the clots being removed and vessels tied by passing a small thread of catgut around them by a curved needle. If hemorrhage is not found upon exposing the brain, incision is made near the middle of the particular centre indicated; this cut must be vertical to the ganglia,—*i.e.*, parallel to the fibres of the corona radiata. The knife must be put more than an inch into the brain at the first stroke, and the cut ought not to be more than one to one and a half inches long. The margins of the incision are gently pulled apart and the white substance inspected for the clot. When the clot is not found in the meninges or as a subcortical hemorrhage in the region indicated by cerebral localization, attention must be directed to the lenticulo-striate artery. This vessel is called by Charcot the "artery of cerebral hemorrhage." The point at which it most frequently gives way may be reached by cutting about one inch in the direction of the lateral ventricle, just behind the lower end of the Rolandic fissure or in the temporo-sphenoidal convolutions at the upper margin. The clot being found, the cavity made by it is thoroughly cleaned out with the finger and irrigated with sterilized water at a temperature of 105° F. Catgut drainage is introduced, or, if the ventricles have been opened, a very small drainage-tube may be put in. The dura is now closed by continuous catgut suture, and the scalp also in a similar manner. When a bleeding-point is found, but cannot be caught and tied, irrigation is first practised, then packing. The packing can be removed in thirty-six hours. Finally, Horsley has shown that ligation of the common carotid upon the affected side checks the flow of blood in a ruptured lenticulo-striate artery as well as in the middle cerebral. The temporary cessation of the flow allows the bleeding to stop, and subsequently collateral circulation does not give rise to secondary hemorrhage. This operation is perhaps justifiable if performed inside of three or four hours, since by arrest of the carotid stream the clot may not become as large as might be the case if the vessel were left to bleed indefinitely, and so permanent hemiplegia, softening, etc., may be prevented in some cases. Illustrative cases are reported.

Ruth, in the same journal, reports some extremely interesting cases of cerebral surgery. The first one was a girl of five years who fell. There was no evidence of fracture of the skull, nor paralysis of any kind. The patient exhibited a slight mental hebetude, with extravasation of blood beneath the ocular and palpebral conjunctiva. The case was trephined and a small clot of blood removed from the anterior branch of the middle meningeal artery.

The second case, aged seventy-one, was struck in the head. Seven days later there was marked muscular inco-ordination and loss of memory with obliteration of patellar reflex. The trephine was applied at the site of the scalp wound. A large amount of subarachnoid fluid was discharged on opening the dura, but no clot was discovered. The patient recovered.

A man, aged thirty-eight, became suddenly paralyzed in the left arm and leg. He was syphilitic. Ruth diagnosed embolic obstruction of the ascending parietal and frontal arte-

ries to the motor area of the right side, and removed three and a half square inches of bone along the fissure of Rolando. No benefit accrued from this. Seven months later a secondary operation was performed, the space from which the bone was removed being almost doubled mainly by extensions backward from the upper and forward from the lower end of the Rolandic fissure.

A case of craniectomy is reported ending fatally in eight hours. Ruth holds as the result of his experience that cases which show symptoms of compression, dangerous pronounced and persistent motor or mental disturbances, should be operated upon.

APPARATUS FOR WASHING OUT THE STOMACH.

HEMMETER (*New York Medical Journal*, March 30, 1895) describes an instrument devised by himself for use in stomach affections, by which water runs into and out of the stomach continually through one and the same tube.

The apparatus consists, first, of a large glass jar, having a stop-cock near the bottom, graduated into divisions, each indicating one hundred cubic centimetres, and placed on an elevated platform, shelf, or the like; secondly, of a double or return stomach-tube, which differs from the ordinary stomach- or lavage-tube of Ewald by the presence of a partition of soft rubber running through its entire length and seen in cross-section, really dividing the instrument into two canals. The canal for the inflow connected with the faucet of the reservoir bottle is only one-half of the calibre of the outflow canal,—a most important provision to insure at all times a greater facility to the outflow than to the inflow, otherwise the stomach may become overloaded with water, which, owing to the elevated position of the reservoir, runs into the stomach very readily and in greater quantities than could be carried away by an outflow tube of the same size as the inflow tube. The connecting piece with its four branches is made of hard rubber, to prevent any stretching of the two tubes (inflow and outflow) at the junction. The end of the return tube has side openings in addition to the opening at the lower end, which does not terminate abruptly, but is bevelled off smoothly and tapers.

In case the apparatus is to be used for washing out the rectum and sigmoid, the patient must be placed in the position suggested by Kelly for atmospheric distention of the female bladder and rectum. In this position the double rectal tube is slowly introduced, consisting simply of the smaller soft inflow tube united with the larger outflow tube and separating near the end. The gastric tube is useful in cases of considerable gastric decomposition or where there are great masses of mucus requiring much time with the single tube. The inflow and outflow can be controlled by the pressure of the fingers of the patient, if necessary. The same precautions are necessary with the single tube in its employment. The double rectal tube is very useful in membranous colitis. With Dr. H. A. Kelly the author has frequently succeeded in exposing the entire rectum and the first turn of the sigmoid flexure to view in direct sunlight. It is possible to pass a very soft rubber rectal tube of the pattern described entirely through the sigmoid flexure into the descending colon in the cadaver; but it must be done before rigor mortis sets in, the subsequent rigidity rendering it impossible. In order to pass it through the sigmoid in the cadaver, the rectum must first be cleaned, the subject inverted so as to have gravity favoring the tube, and when the first turn of the sigmoid is reached the water is started to run from the inflow tube. This will keep pushing away folds of mucous membrane and excrement, and facilitates the successful passage of the tube.

From these results on the cadaver it is conceivable that we may yet be able to pass a tube into the transverse colon in the living subject.

The writer, in conclusion, reports the case of a medical practitioner under his care a year ago, suffering from symptoms of membranous colitis. The author suggested to him that his pains were perhaps due to the absorption of toxic substances from the colon and sigmoid, and advised regulation of diet, rest, and washing out of the colon. This advice was followed with very satisfactory results.

TREATMENT OF GALL-STONES AND GALL-STONE COLIC.

FERGUSON (*Journal of the American Medical Association*, January 19, 1895) gives the following indications for opening the abdomen and exploring the gall-bladder.

1. For attacks of biliary colic accompanied by distended gall-bladder which suddenly subside and no stone is passed. The stone has dropped into the bladder and will attempt its escape again.

2. For repeated attacks of biliary colic where the bladder becomes enlarged and jaundice follows. A stone is lodged in the ducts, and must be removed to obtain relief.

3. For persistent tenderness over the gall-bladder. The interpretation of this sign is that a subacute inflammation has been set up by the irritation of a stone. Such cases have a history of colic, and the results are apt to be gangrene of the gall-bladder, ulceration (with perforation, causing peritonitis), or cancer.

4. For persistent and marked enlargement. Such may indicate that the gall-bladder contains: a large number of stones or several very large ones; much mucus; large accumulations of bile; mixture of the two above; that a growth, cancer, or tumor is invading its walls. Three operations are open to us, and each should be undertaken according to its own nature.

1. Cholecystotomy: cutting open the gall-bladder and removing the stones from bladder and ducts and closing again, with or without a period of drainage.

2. Cholecystectomy: removal of the gall-bladder entire with its ducts and contents, advisable only in cases of tumor, cancer, ulceration, or gangrene.

3. Anastomosis of the gall-bladder with the intestines.

This is to be done when the gall-bladder contains much material, including bile, and after evacuation an opening cannot be established between the gall-bladder and the intestine,—*i.e.*, permanent obstruction of common ducts. It is easiest accomplished by means of the Murphy button.

AN OPERATION FOR THE RELIEF OF IMPERMEABLE OCCLUSION OF THE ŒSOPHAGUS.

CARTER (*New York Medical Journal*, March 23, 1895) reports a case of impermeable occlusion of the œsophagus of five years' standing successfully treated by Bernays with dilatation by a new method.

The patient, aged six and a half years, had swallowed concentrated lye when two years old. The accident was discovered immediately after its occurrence, and prompt medical assistance given; great œdema of the parts followed, and for a period of four days she was unable to draw the tongue into the mouth. Later she was found to be unable to swallow. No attempt was made to prevent the formation of organic stricture until four months after the accident, the patient being nourished through the rectum and by inunction.

Numerous attempts were then made to pass bougies through the œsophagus, some under the influence of an anæsthetic and some without. On the few occasions when this procedure met with success, the withdrawal of the instrument was followed by the copious discharge of a purulent fluid. Once or twice, following the passage of the bougie, the patient had succeeded in swallowing a few drachms of water, the total quantity amounting to less than half a litre.

Thirteen months later gastrostomy was successfully performed; through the fistula then established the patient received all her nourishment. Many attempts to penetrate the stricture by Von Hacker's method of swallowing a ligature were made without success.

On examination, the patient presented a dwarf-like appearance, weighing only nineteen pounds. Under anæsthesia by chloroform, an examination was made in the following manner: the fistulous opening in the epigastrium was first dilated by means of the index finger, which was introduced into the cardiac orifice of the stomach for a distance of about four centimetres. The lower end of the œsophagus was found to be intact and the action of the sphincter perfect. Some destruction of the gastric mucosa had taken place, evidenced by the presence of cicatricial tissue. The stricture was too high to be located by the finger, which was withdrawn and a soft-metal bougie introduced; this passed up easily to a distance of twelve centimetres from the external opening in the epigastrium. A plaited silk bougie was then introduced through the pharynx and into the œsophagus. The stricture was located about eighteen centimetres from the teeth, with a distance of seven centimetres of tortuous cicatricial tissue between its beginning and its end above the cardia.

At this point the œsophagus is in close relation to the arch of the aorta, vena azygos, left common carotid artery, and thoracic duct. Further examination showed great distention of the œsophagus, which had formed two diverticula on either side of the upper end of the stricture, the one to the right lying directly behind the manubrium sterni, the other over the apex of the left lung. The probable capacity of these two pockets amounted to thirty cubic centimetres.

Having arrived at this understanding of the case, the writer decided to perform an œsophagotomy as near to the beginning of the stricture as possible.

The bougies being removed, a metal male catheter was introduced through the pharynx and the œsophagus, and pushed forward and to the left of the trachea until the catheter could be

distinctly felt immediately below the skin in the side of the neck. An incision was made, four centimetres in length, parallel to the inner border of the sterno-mastoid muscle, dividing the skin, fascia, platysma, connective tissue, and the anterior wall of the œsophagus, which was drawn forward and united to the integument by interrupted silk sutures.

Owing to the debilitated condition of the patient, further procedure was postponed for a period of three weeks, during which time the œsophageal mucosa healed to the skin. For the first few days the pulse averaged 120, the temperature 100° F. Some difficulty was experienced from the constant flow of saliva over the wound, but no suppuration of any consequence followed. The sutures were removed on the seventh day.

After healing, the nozzle of a syringe was introduced through the fistula in the neck and passed deeply towards the œsophagus; different attempts were made to inject water through the stricture, which proved impermeable.

Three weeks after the first operation a second one was performed for the reduction of the stricture, which was now much more accessible, the patient's condition being as good as when first operated upon. After anæsthetizing, the end of a soft-rubber tube whose other extremity was attached to a Davidson syringe was passed through the epigastric fistula into the gastric opening of the œsophagus. All attempts to inject through the stricture from either side failed. A pillow was placed under the shoulders and the neck put upon the stretch.

The index finger was introduced into the œsophagus through the opening in the neck, a soft-metal bougie being at the same time passed into the lower portion through the cardiac orifice. At first the end of the bougie could not be felt by the examining finger, and much careful manipulation was necessary before it could be positively determined. The bougie was removed and its end cut to a trocar point with a scalpel and reinserted as before; when located, gentle manipulation was made against its point through the stricture by the index finger in the œsophagus, a rotary movement being simultaneously given to the bougie. In this manner the stricture was successfully perforated; the bougie passed upward to the opening in the neck, where a stout double silk ligature was attached to its end and drawn down through the œsophagus and out of the artificial opening in the stomach. Upon this ligature there was threaded through its lumen a Nélaton rubber catheter of an external diameter of 1.5 centimetres; this was drawn through the œsophagus until the upper end had entered the neck, and then pushed upward until the upper end could be seized in the pharynx and drawn forward out of the mouth; both ends of the catheter were now outside of the patient's body; they were secured by a ligature, the ends of which were tied together.

Following operation, the patient rallied fairly well; the hemorrhage had been insignificant. Pulse remained 120 for several days; the temperature at no time exceeded 100.6° F. She became greatly emaciated. Liquid food was given at short intervals and stimulants as indications demanded. Heat was kept applied constantly to the extremities, which were cold, especially the tip of the nose; the pupils remained dilated, and she manifested all the symptoms of profound shock. Some difficulty was experienced by the pressure of the catheter against the trachea, which was removed and the end drawn through the opening in the neck. Food was introduced into the stomach through the epigastric fistula during convalescence. On the seventh day the rubber catheter was reintroduced through the pharynx, and a plaited silk Renvers funnel threaded upon and attached to the ligature passing through the catheter; their ends were brought in apposition, and together they were drawn downward through the œsophagus, the catheter being entirely withdrawn and the funnel left in the œsophagus at the site of the stricture, its upper end remaining above it and its lower entering the stomach; the ends of the ligature were united on the outside as before. Both the artificial openings were then temporarily closed. The patient was given a glass of soda water, which she desired; the entire quantity was swallowed in the natural manner; this was soon followed by half a pint of water, and a few minutes later by half a pint of milk. This was the first food that had entered the stomach through the natural channel for five years. Pulse remained at 120; the pupils were widely dilated. On the fourteenth day the Renvers funnel was removed, the ligature being left *in situ*. The general condition improved, the pulse falling to 85. She commenced swallowing through the natural channel. Dilatation was omitted for a week, when the child was found not to swallow well. After passing olivary bougies ranging from Nos. 14 to 20 (French) through the stricture, a Renvers funnel was reintroduced. This was removed on the third day, and three strands of heavy pedicle silk drawn through the œsophagus and gastric fistula. The end of one of these strands was drawn through the

opening in the neck and its ends tied together, forming a continuous cord.

The ends of another ligature were similarly tied; this was held in reserve in case of loss of either of the others. Upon the upper end of the remaining ligature a loop two inches long was tied, whereon could be attached any instrument with a similar loop which it might be necessary to draw through the œsophagus. Resistance to the passage of whalebone bougies necessitated some other method of dilatation. The author, therefore, unscrewed the olivary bulbs from the whalebone probe and drilled a hole through the long diameter of each. Each bulb was threaded upon a stout ligature, upon the end of which a six-centimetre loop was knotted. Two centimetres or so above each bulb a knot was tied sufficiently stout to prevent the ligature being drawn through.

A little vaseline was applied to the bulb and the knots, and the whole apparatus drawn through the stricture, the ligature being drawn somewhat tight. He was then able to pass the smaller sizes, but a No. 24 (French) could not be drawn through the stricture. He then took each end of the ligature, which passed between the bulb and the edge of the stricture, and sawed backward and forward after Abbé's method until sufficient dilatation had taken place to permit the passage of the bulb. He then withdrew it and reintroduced a Renvers funnel.

The patient bore the seesawing very badly, complaining of pain in the region of the stricture; the granulating edges of the gastric fistula bled very easily, and there was some irritation and dermatitis due to escape of stomach contents.

The patient's condition is steadily improving; it is now two months since the first operation, and a bulb No. 30 (French) can be passed, her appetite is good, and she has gained three pounds in weight.

TREATMENT OF FRACTURE ABOUT THE ELBOW-JOINT.

JONES (*Provincial Medical Journal*, December, 1894, and January, 1895) states that he has treated several hundred cases of injury to the elbow by means of splints, and was unfortunate enough to meet with two bad results. The one was a case of intercondyloid fracture in a boy of fourteen, which, at the end of six weeks, seemed firmly anchylosed, and the other in a girl of twelve, who, at the end of five weeks, after a simple backward dislocation, showed anchylosis not attended by limitation to supination or pronation. In the first place, he forcibly extended, supinated, then acutely flexed the elbow. He applied a bandage round the neck, and for three or four weeks kept it so without making an examination. His second case was treated in similar fashion, and both made good recoveries with excellent motion.

When a child is brought with injury to the elbow of recent origin, one observes his demeanor. If he carries the arm at an angle of about seventy degrees, does not support the hand, appears in no great pain, his forearm pronated, subluxation of the head of the radius is probably present. If this be the case, the writer puts his thumb into the bend of the elbow over the radial head, supinates, and acutely flexes the arm. Almost invariably a small click under the thumb confirms the diagnosis. In a week or nine days the child will be able to freely use the arm. If the case should happen to be one of sprain, simple or severe, he again supinates and acutely flexes, for in that position the elbow cannot be further flexed, checked as it is by the neck, nor will the halter admit of extension.

Should the next case be one of separation of epiphysis or fracture above the joint, he again extends, supinates, and flexes, for by these means we most effectively correct the usual forward displacement of the lower end of the humerus, and that without the baneful influence of pads. If it be a dislocation backward, extend and supinate and acutely flex, for unless the dislocation be completely reduced, you cannot place the hand to the neck, so that one is assured of reduction and success by this routine.

Should the radius be dislocated inward and forward, the same treatment is indicated. The extension and supination reduce the displacement and the acute flexion prevents the recurrence of the deformity. If the fracture be intercondyloid, or T-shaped, the position of acute flexion has this advantage,—viz., that it secures at once the right of way before exudation of callus and displaced condyles can prove obstructive. Should the injury be separation of the inner epicondyle, there is no better way to keep it from the common downward displacement than by acute flexion to relax those muscles which govern its direction. It is impossible in the right-angled position to secure replacement of the lower end of the humerus without pads, and it is, unfortunately, quite possible to only partly reduce a dislocated elbow or a dislocated radius, while the arm can easily be maintained in a rectangular posture.

The object of the surgeon in treating fractures about the joints should be:

1. To allow free circulation in the limb.

2. To obtain complete rest for the injured structures until they assume their normal condition.

3. To posture so that the callus exudation shall not unduly hamper the joint movements.

It is impossible to apply with advantage splints round the elbow-joints of children. The plaster and bandage has to so tightly surround the arm that swelling and interference with reparative processes invariably result. The halter secures absolute rest from the normal movements of the elbow. Fixed to the neck, no further flexion is possible, and the halter effectively debars extension. All movements are performed at the shoulder.

The question is now asked, When should the sling be discarded? In the case of a dislocation, in from three to four weeks; in the case of a fracture through shaft or condyles of humerus, in from five to six weeks. This should always be done in experimental fashion. When the surgeon thinks the time for movement is about due, he should slacken the sling so that the hand falls about a couple of inches. In three or four days the patient is asked to raise his hand to the position from which it has dropped; if he fails, the sling has to be readjusted; if he succeeds, then the sling can be either dropped lower or altogether dispensed with. If, so to speak, the hand fails after a few days' opportunity to respond to the invitation offered by the slackened bandage to drop its two inches, then one may fear an anchylosis and act accordingly in the interests of a useful limb.

To sum up, from a singularly extended observation of cases treated by various methods, both in the practice of his predecessor, Mr. H. O. Thomas, and in that of the author, he concludes:

(*a*) That splints should be discarded in all cases of injury of the elbow-joint, excepting in those cases of compound fracture and dislocation where anchylosis is assured, and in fractures of the olecranon.

(*b*) That passive motion should be avoided until the consolidation of bone has been completed, and until all inflammation has subsided.

(*c*) That whether a diagnosis can be made or not, the arm should be forthwith extended, supinated, and acutely flexed, and kept in such position until recovery has taken place.

If these principles are adhered to, anchylosis will prove a rare result. Sometimes with separation of either condyle, cubitus varus or cubitus valgus will remain as a deformity. It is, however, of no consequence, either from an æsthetic or functional aspect. Sometimes the joint falls short by a few degrees of complete extension; but the best results in the greatest number of cases can only be realized by extending and supinating the arm and acutely flexing the elbow.

SOFT CHANCRE.

PETERSON (*Archiv f. Dermatologie u. Syphilis*, Bd. xxx., Heft 3) thus treats chancroid with its complications. The chancroid, he holds, should always be treated as an infected wound. Rest is of first importance,—not only local, but systemic,—and the ulcer should be thoroughly disinfected. For this purpose one to two per cent. carbolic acid or sterile distilled water serves best. The sore should be washed with pledgets of absorbent cotton dipped in this solution. The dressing material may be applied in the form of solution, powder, or salve; but before applying this dressing the wound should be rendered thoroughly sterile by ecochleation. For this purpose a small sharp spoon is used, one which can be carried to every extension of the ulceration. There is never much bleeding. For this europhen or iodoform or pyoktanin in solution (1 to 200) is applied, and over this sterile gauze or iodoform gauze or sterile cotton, the whole being kept in place by a sterile bandage. This has to be frequently changed. When the lesion lies in the region of the frænum, a fresh piece of sterile cotton is applied after every act of urination. When the lesion lies at the urethral orifice, after each micturition it must be washed and powdered. Each time the bandage is changed, a one- to two-per-cent. carbolic solution is used as a lotion. When the chancroid is situated in the fossa navicularis, iodoform bougies are applied, kept in place with cotton. Gangrenous and phagedenic ulcers are treated in the same way, the borders of the ulceration, however, being first thoroughly cauterized by means of the thermo-cautery. Systemic treatment should not be neglected. This should be tonic and supportive. When the local symptoms become highly inflammatory in type, a moist dressing of one-per-cent. carbolic acid is advisable. Uncomplicated cases run their course in two or three weeks. When ecochleation is practised, cure is accomplished in about ten days. The author truly states that authors who report a method of treatment which cures in four to six days, based on an experience of three or four cases, should be distrusted.

Balanitis is treated by dusting three or four times with bismuth powder, and by keeping a thin layer of cotton between the mucous surfaces.

Phimosis is treated by subpreputial injections of dilute lead-water three or four times a day. When swelling becomes so great as to threaten gangrene, circumcision is advisable. This the author has performed over one thousand times. He at first failed to get union by primary intention because of imperfect technique. After removal of the foreskin, he now places a deep suture throughout its entire extent beneath the surface of the circumcision wound. The suture is a continuous one, the first stitch being buried, then two superficial, the fourth again entirely buried.

He states that healing by primary intention is now the rule. Every patient after circumcision is given for one week 5 grains of bromide of potassium five times a day for the purpose of lessening erection. When pain and swelling indicate forming bubo, the patient is put to bed. In the early stages zinc-collodion, made by taking two parts of oxide of zinc and castor oil and sixteen parts of collodion, is painted on two or three times a day. When the bubo is well formed—that is, when suppuration has taken place—the pus should be evacuated by incision, followed by pressure bandage. The incision wound is not necessarily large, usually one and a half to two inches in length. The whole cavity is thoroughly scraped out with a sharp spoon, tamponed with iodoform gauze until bleeding is stopped, the tampons withdrawn, and a pressure bandage applied, endeavoring to establish adhesion between the under surface of the skin and the deeper parts of the wound. Simple puncture is serviceable when there is a suppurative perilymphadenitis, especially when it is followed by a pressure bandage. It is not so useful when the gland itself has suppurated. Before suppuration, injection of benzoate of mercury (one per cent.) into the bubo will often abort the inflammation. By the incision method, Peterson states that the average time for healing is about twenty-two days.

LATERAL CURVATURE OF THE SPINE.

Christopher Heath (*British Medical Journal*, March 16, 1895), in discussing the treatment of lateral curvature, says that when there is a primary curve in the lumbar region, all that is really necessary is to rectify the shortness of one leg, which is the common cause, by a compensating boot, but not by adding to the boot for the shorter leg. If, for instance, the left is half an inch shorter than the other, the bootmaker should take a corresponding amount from the heel of the right boot. The object is to get the pelvis straight by raising one leg or by lowering the other. It is better to first lessen the thickness of the sole of the boot of the long leg, and only add it to that of the other if the first is insufficient.

If an apparatus is needed, it should be worn only in the day time, and be carefully attended to, so that it does not make the skin sore by chafing.

LAMINECTOMY FOR FRACTURE DISLOCATION IN THE CERVICAL REGION.

Dr. Frederick Winnett (*Canadian Practitioner*, January, 1895; quoted by the *Universal Medical Journal*, March, 1895) presented to the Toronto Medical Society the report of a case of the above nature in a man of twenty-nine years, who had fractured the cervical vertebræ while bathing. Running ten or fifteen yards, he dived from the pier about three feet above the water, which was not more than four feet deep. His head was seen to strike the sand, doubling under him, and his body to float to the surface. When rescued he said he experienced a terrible shock through his body and that he had hurt his neck.

His condition was as follows: Mind perfectly clear. Sensation normal as low down in front as nipples and shoulders. Tactile sensation present, although indistinct, over the remainder of the surface, with the exception of forearms and hands. Contact of clothes hot and painful. Sense of pain absent. Retention of urine and unconscious defecation. Pupils contracted. Some irregularity of the spines of fourth and fifth cervical, and tenderness. All the muscles below the neck paralyzed, with the exception of the diaphragm.

On the following day Dr. Winnett assisted Dr. G. A. Peters to perform laminectomy. The patient was turned well on his right side, and, in order to not embarrass the movements of the diaphragm, pillows were placed beneath chest and hips. His head was supported with sand-bags. The neck having been shaved and washed with a solution of carbolic acid, an incision was made from above down over the spines for about three or four inches, with its centre over the fourth or fifth spine. The spines and lamina and fifth vertebra were found ruptured, spine of fourth bent to the left, and lamina of fourth on left side fractured. The edges of the wound were drawn apart with

retractors, while the lamina of the fourth on right side was partly divided with Hey's saw, and the division completed with the bone-forceps. The soft structures were divided, and with necrosis forceps the spine and laminæ were drawn forcibly away. This exposed the cord surrounded by the membranes, which appeared healthy. As the membranes were tense, the lamina of fifth was similarly divided and removed. Pulsation was now noticed. A small spicula of bone was removed from the membranes in the region of the fractured lamina, causing some blood to escape in a constant stream and cerebro-spinal fluid in a jetting manner, but this soon ceased. Hemorrhage gave no particular trouble, and ligatures were not required. Deep sutures of silkworm-gut were inserted, and a superficial continuous suture of horse-hair. The wound was dusted with iodoform, and iodoform and double cyanide gauze applied and a pad of absorbent cotton. The head was supported on a small pillow and sand-bags placed on either side. The operation occupied three-quarters of an hour.

Ten weeks after operation the patient had sufficiently recovered to be removed to England, and nineteen weeks after the bladder was said to be normal and the left hand could be moved freely, but the right hand was not improved.

In connection with the diagnosis, Dr. Winnett pointed out the difficulty of localizing a lesion in the cervical region from an ordinary anatomical knowledge of the origin of the nerves. Speaking generally, we have the following: the musculo-cutaneous supplies the flexors of the elbow, but, as it receives fibres from the fourth, fifth, sixth, and seventh cervicals, its paralysis would leave the location of the lesion indefinite. In practice, however, the fifth nerve is found to preside over this action.

The musculo-spiral supplies the muscles on the back of the arm and forearm, and therefore extends the elbow and wrist. It, however, is made up of fibres from all the nerves from fourth cervical to first dorsal, and consequently helps a diagnosis very little. The sixth nerve extends the elbow and the seventh the wrist. The median supplies most of the flexors of the wrist, but, receiving fibres from all the plexus, it leaves a diagnosis uncertain. Here the eighth cervical is found to govern the action. The first dorsal supplies the intrinsic muscles of the hand.

Since the origin of these nerves is opposite the bodies of the vertebræ above, we have: centre for flexing elbow, opposite body of fourth cervical; centre for extending elbow, opposite body of fifth cervical; centre for extending wrist, opposite body of sixth cervical; centre for flexing wrist, opposite body of seventh cervical; centre for hand, between seventh and first dorsal.

MOVABLE KIDNEY TREATED BY OPERATION.

W. Bruce Clarke (*British Medical Journal*, No. 1785) states that the completion of a series of thirty cases of nephrorrhaphy seems to be worthy of regard in the sense that the ultimate results of these thirty operations should be reported to the profession. The author has already drawn attention to a class of cases of movable kidney, hitherto little noticed, in which very severe pain is one of the prominent features. From the pain and other acute symptoms which determine these attacks, it seemed all but certain that a sudden displacement of the kidney from its natural bed must be their determining cause, and that the term "acute renal dislocation" would best describe what takes place. He concludes, from an extended experience of what may be described as the more common variety of floating kidney, that it is rare to come across any case in which pain has been completely absent throughout. The question to be determined is, What is the probability of a successful result if an operation be performed? The immediate result was successful in all cases. In the great majority of the cases pain was a prominent feature. Severity of the pain led to the demand for its relief. This pain usually begins without warning, sometimes in consequence of a strain or some severe exertion, occasionally after injury. It is often attended by vomiting, and later on usually gives rise to local abdominal tenderness. The duration varies from a few hours to a day or two, and in some instances it may be cut short by manipulating the affected kidneys. The condition of the urine varies greatly during and shortly after the attacks. It may be scanty and blood-stained, or almost porter-colored, like that which is passed in acute Bright's disease, while in less severe cases it is commonly quite unaltered. In some of the cases the pain was simply a dull ache, producing a constant sense of uneasiness in the loin, usually aggravated by hard work or exercise of any kind. This class of cases in women is always attended by more severe pain at the monthly periods. In many of the cases during the intervals between the attacks, the kidney, even when the patient complained of no pain, was unduly tender to palpation. In two of the cases the kidney was surrounded by a well-marked meso-

nephron. It was, therefore, found necessary to open the peritoneum in order to fix them firmly in position. The kidney in both these cases could be felt to be distinctly movable, and slipped readily out of its proper position. In both the sutures were passed through the peritoneal coats only, and the patients made rapid recoveries.

In a second reported case pain returned after operation. The kidney was removed and a small calculus was discovered in its interior. The patient was cured of her trouble.

Several points are suggested by a consideration of the above cases. First, the impossibility of distinguishing clinically between kidneys which are surrounded by a mesonephron and those which are movable behind the peritoneum. In his first two cases a mesonephron was present, but the character of the movements of the kidney gave no clue to its existence beforehand. In several of the subsequent cases the movements were so extensive that a mesonephron was expected to be present, but none existed.

It is often asserted that operations performed on movable kidneys do not yield the results which are expected from them. The results that will be obtained largely depend on the condition of the kidney when the operation is performed. If the pelvis is dilated or the secreting substance largely destroyed, but little is to be gained by leaving the affected organ, if the other one is known to be healthy; and it is obvious that the more unhealthy the movable kidney proves to be, the more certain it is that the opposite organ is capable of taking on the work of both sides. If the ureter is lax and elongated, the tendency to form kinks and temporary valves is considerable, and militates against the likelihood of a successful issue. If such cases are to be operated on at all, the sooner they come into the surgeon's hands the greater the chance of permanent relief of pain, and of preventing those degenerative changes which in all probability will eventually destroy the kidney and tend to shorten the life of the patient to whom it belongs.

THE FLAXSEED-MEAL POULTICE AS A STERILE DRESSING.

LOVETT (*Boston Medical and Surgical Journal*, April 4, 1895) publishes a paper in which he gives the results reached in attempting to determine by experiment the question whether this form of dressing can be considered a sterile one.

As an instance of the practical usefulness of flaxseed-meal poultices the following series of cases may be mentioned. After operations for chronic or acute glandular abscess, the writer has treated cases in two ways. In the first series of cases a wet corrosive dressing, with perhaps iodoform, was at once applied, and, so far as possible, was kept continuously wet. In the second series of cases a flaxseed-meal poultice was used from the first, and was changed every two or three hours. The cases observed have amounted to some forty in number altogether, and in those treated by the flaxseed poultices the patients suffered less pain, the induration disappeared more quickly, and the progress was in every way more favorable than with the corrosive dressing. To a certain extent the same is true with regard to felons and similar inflammatory conditions.

The following experiments deal with the flaxseed-meal poultice as a dressing, considered from a bacteriological stand-point:

1. In the diphtheria ward of the Boston City Hospital some flaxseed-meal was taken from a tin box in which it was kept and boiling water was poured upon it in the ordinary copper poultice-dish. It was kept hot over the gas-heater for three minutes, a little hot water being added from time to time. It was then poured out in the usual way, smoothed with a clean knife, and covered with a piece of gauze not sterilized. A culture from the inner surface of the poultice, including the gauze, showed it to be absolutely sterile.

2. In the surgical out-patient dressing-room, where fifty to one hundred wounds are dressed daily. The air in this room is foul, on account of the large number of patients always there and on account of the presence of many foul leg-ulcers, etc. A poultice was made in a clean copper tin by pouring boiling water on the meal. The meal was taken from a tin box kept in the room. The water and meal were mixed with a knife. No precautions were taken to render the poultice sterile. A culture from the meal as it was poured out was sterile.

3. Ordinary gauze, not sterilized, was placed over the inner surface of the meal. A culture showed a few cocci resembling pus cocci and a few bacilli.

4. The hands were sterilized; the poultice-dish was thoroughly cleansed; the meal and water were heated for three minutes over the heater.

Culture from the meal as poured out showed a few long, thick bacilli, probably non-pathogenic.

5. Sterilized gauze was placed over the inner surface of the meal and wet in the

moisture of the poultice. A culture from this was sterile.

6. A poultice made in the ordinary way without precautions, covered with non-sterilized gauze. A culture from inner surface showed many confluent colonies of whitish color, which, microscopically, were seen to consist of short, thick bacilli, probably non-pathogenic.

7. Poultice made as in No. 6, but heated for five minutes at a temperature somewhat above 212° F. A culture showed a few small, whitish colonies, seen to consist of micrococci.

8. December 12. Men's surgical ward. Poultice made without precautions; cooked thirty seconds. A culture showed colonies of colon bacilli.

9. Poultice cooked for five minutes; otherwise same as No. 8. A culture showed a few colonies of colon bacilli.

10. December 13. Surgical out-patient dressing-room. Poultice made with aseptic precautions: sterile gauze, aseptic hands, etc.; cooked thirty seconds. A culture showed a pure growth of fine bacilli, but no pus cocci.

11. The same as No. 10. Cooked five minutes. A culture showed various bacilli of different forms, but no pus cocci.

12. Surgical private ward. The poultice was made with all aseptic precautions, and sterilized gauze was used. The meal was boiled for three minutes. A culture showed various organisms present.

13. The same precautions as in No. 12. The poultice was boiled for ten minutes. A culture showed various organisms.

14. Women's surgical ward. The meal was boiled for three minutes and poured out. No gauze was used. A culture was sterile.

15. Out-patient surgical dressing-room. The meal was boiled for three minutes. No gauze was used. A culture showed only one colony of long, thin bacilli.

16. Surgical out-patient dressing-room. The poultice was made with all aseptic precautions, and the meal was boiled for two minutes. A culture showed long, thin bacilli and cocci.

17. The poultice was made with all aseptic precautions, and was boiled for five minutes. A culture showed long, thin bacilli and cocci.

These experiments show plainly that, although, apparently by chance, the flaxseed-meal poultice may be perfectly sterile, yet in the majority of cases it is not so. Nor can it be rendered sterile by the most scrupulous care in its preparation, as shown, for example, in Experiments Nos. 16 and 17. Experiments made in heating the meal for ten minutes or more reduced it to such a gelatinous mass that it was not suitable for surgical use, so that the times given here are as long a period of sterilization as is practicable. The organisms found were in most cases probably non-pathogenic, and micrococci were not often present. The place where the poultice was prepared seemed to have little effect on its character, Experiments Nos. 12 and 13 having been made under the most favorable conditions, while Experiment No. 1 was done in a ward containing many of the foulest cases of diphtheria.

In conclusion, it may be said that the flaxseed-meal poultice is a dressing often sterile, and, if not sterile, containing, as a rule, organisms which are probably not pathogenic, but that it may contain pus cocci. It may be added that no care in its preparation can be relied on to render it sterile.

A NEW TREATMENT FOR CHRONIC JOINT-AFFECTIONS.

A somewhat novel method of treating chronic rheumatic and gouty affections has been tried at St. Bartholomew's Hospital and at the Northwest Hospital, in London, and described by MR. ALFRED WILLETT. The Tallerman-Sheffield local hot-air bath is an invention by which dry air, at temperatures from 250° to 300° F., is applied to a portion of the body, such as hand or foot, knee or elbow, an arm or leg. The bath itself consists of a copper cylinder, varying in size and shape according to the part to be inclosed. At one end the limb enters, surrounded by rubber sheeting, and the other is closed by a movable cap working on a pivot, by the use of which, and outlets at the top and bottom of the cylinder, it is found possible to keep the air in the chamber practically dry throughout the operation, notwithstanding the moisture thrown off by the limb inclosed, and instant relief can be afforded the patient if the temperature causes any discomfort. The cylinder is heated by gas-burners placed underneath. Precautions are taken to prevent the skin from coming into contact with the heated metal.

Mr. Willett's conclusions are decidedly in favor of the treatment in certain cases, and his results may be summarized as follows: the first effect of the heat is to induce a copious diaphoresis, and the circulation of the blood in the part is enormously increased, as is well shown by the bright redness of the limb when removed from the bath. The anodyne effect is often remarkable; pain is generally not only

relieved, but entirely removed, so that the patient expresses the great relief he feels, and moves the limb with much greater freedom and with much less pain. The cases that appear most likely to be relieved by the treatment are sprains, stiff joints (where there are no very strong adhesions), flat-foot, gonorrhœal rheumatism, acute and chronic gout, chronic ulcers, and rheumatism. It deserves also to be employed for its anodyne effect after forcible breaking down, under an anæsthetic, of adhesions which have formed in or around a joint; if the limb be placed in the cylinder, the pain, which is generally severe, is greatly lessened and the secondary stiffness is much diminished. Mr. Willett was of opinion that but little assistance would be afforded by this bath in overcoming firm, fibrous, articular adhesions. Sooner or later the adhesions will have to be forcibly broken down under an anæsthetic.

The treatment was applied at the Northwest London Hospital by Mr. Mayo Collier upon eight cases. The patients suffered from sprains, rheumatoid arthritis, gout, chronic leg ulcer, and tuberculous knee-joint. Improvement was reported in all cases, and in some it was quite striking.—*Medical Record*, February 9, 1895.

TRACHEOTOMY IN CHILDREN.

GAMGEE (*Birmingham Medical Review*, March, 1895) reports twenty-five tracheotomies and ten deaths; three were cases of catarrhal laryngitis. Of twenty-one children under twelve years of age, operated on for membranous croup, over fifty per cent. recovered. Of eight patients under two years of age, only one recovered, this case having suffered from a scald. Out of four thousand four hundred and ninety-three cases of tracheotomy occurring in the practice of German surgeons, about thirty per cent. recovered. The presence of pneumonia, of course, constitutes a very grave complication and one which greatly raises the death-rate. The extent to which symptoms of asphyxia have been allowed to progress also directly affects the prognosis; hence early operations are advisable. The author holds that well-marked retraction, both costal and episternal, with increasing severity of symptoms, despite efficient medical treatment, always indicate early operation. When the patient is restless and struggling the surgeon is aided by anæsthesia, and some benefit accrues from relaxation of laryngeal spasm. On the contrary, when the child is cyanosed, quiet, and semi-conscious an anæsthetic is not indicated. As to the operation itself, the thyroid isthmus should be drawn down, the deep cervical fascia nicked transversely, and the trachea opened above the isthmus. This is easily done in adults and older children, but in the young child with a short, fat neck the thyroid isthmus should be divided completely down the centre. Bleeding is usually slight, but if it is at all severe, the divided end of the isthmus can be caught in a pair of hæmostats. This method is more rapid, more easy, and gives a much better exposure of the trachea. If practicable, the trachea should not be opened until bleeding has ceased; but there is not always time for this, and if such be the case, the trachea should be found by the touch and opened at once. When this has been done, all bleeding immediately ceases, and indeed very little harm results from the entrance into the trachea of a small amount of blood which is in the wound at the time the wound is opened. A bivalve silver tube with a movable shield and of as large size as possible should be used. The pretracheal fascia should be cut cleanly through, and the operator should be careful not to strip it up, since, if this precaution is not taken, fatal emphysema of the mediastinum may occur. After operation the patient should be put in a tent near the fire, but should not be subjected to steam vapor, since this is debilitating. The full amount of liquid food should be given by the mouth, unless fluids are returned through the tracheotomy tube, in which case the nasal tube should be used. At the end of a week an attempt should be made to leave out the tube. This should be done gradually, so that the patient may become accustomed to breathe through the larynx again. The chief obstacles to the restoration of nasal respiration are excessive granulations about the wound, laryngeal stenosis, functional impairment of laryngeal muscles, attacks of œdematous or catarrhal laryngitis and intercurrent disease. To overcome the effect of fright, a tube should be used with an opening on the convexity, and at intervals the mouth of the tube should be plugged for some minutes at a time. This compels the patient to breathe through the larynx without noticing. When granulations form at the junction of the trachea and larynx, or around the trachea on a level with the wound, they should be touched with silver nitrate, or intubation may be practised from the mouth, or a flexible tube may be passed from the wound up through the rima glottidis. There is a recorded case of death from asphyxia five days after removal of the tube. Post mortem there was found a mass of granulations on the tracheal aspect of the wound, the external part of the

wound having healed. Nocturnal dyspnœa is characteristic of this complication. Stenosis of the larynx may be dilated or subject to the cutting operation, or may be so intractable as to require the permanent use of a tube. Œdematous or catarrhal laryngitis may enforce the wearing of a tube for a long time.

TREATMENT OF EXTERNAL PILES.

OTIS (*Boston Medical and Surgical Journal*, March 21, 1895) classifies the cutaneous variety of external pile as redundant, hyperplastic, or hypertrophic. The distinctive feature of the redundant pile is the superabundance of the circumanal integument brought about by the stretching it receives from the subjacent varicose external hemorrhoidal veins when they are fully distended, as during defecation. The hyperplastic pile appears in the form of a pendulous cutaneous tag, associated with an abrasion, fissure, or ulceration at the anal verge, and is the result of an inflammatory hyperplasia; while the term hypertrophic indicates that the swollen, thickened, radiating anal folds associated with the eczematous inflammation are the result of an inflammatory or irritative hypertrophy. There should be no difficulty in distinguishing between external and prolapsed internal piles, because the external pile, being covered with skin, will have the color of skin and will be dry, with no tendency to bleed.

The existence of a varicose condition of the external hemorrhoidal veins can probably be demonstrated on every adult, and is scarcely pathological, excepting when repeated and excessive venous engorgement has produced a degree of enlargement sufficient to have caused the external varicose pile. This, during a state of engorgement, is turgid, dark blue, and can be emptied by a pressure, characteristics sufficiently denoting its sanguineous nature. Its presence may be surmised, even when the pressure causing its engorgement is absent, by the fact that the external skin covering the varices has been so overstretched that it cannot resume its normal shape, and may be seen hanging about the anus in numerous loose, redundant folds. The presence of a redundant cutaneous pile is a sure indication of a varix directly underlying it. This condition is associated with no symptoms aside from the mere physical ones. As a varicosity of the external hemorrhoidal plexus is always associated with and secondary to a similar condition of the internal plexus, all treatment of the external varicose pile must be directed to the removal of the cause of the varicosity of the internal plexus.

The tonic effect to be derived from the daily application of cold water favorably affects in these cases both the internal and external varices.

The thrombotic pile is due not to rupture of the vein, but to true thrombosis. It is formed very rapidly, and is extremely painful and annoying from the sphincterismus it excites. Cooling lotions, such as dilute lead-water and Pond's extract, give some relief, but incision and evacuation of the thrombus is a means of treatment which causes suffering to cease at once.

The redundant pile is to be treated by thorough cleanliness, since in itself it gives rise to no symptoms. It is merely indicative of long-standing internal piles. An important point to be borne in mind is, that in operating for internal piles the often œdematous and greatly congested external redundant pile should be let alone, the operation being confined to the tissues above the inner rectal groove. The hyperplastic pile lesion of inflammatory origin assumes a bag-like shape, due to the limited space in which it forms, and in the acute state it has a pinkish-red color, is sensitive, œdematous, firm in texture, and much indurated. It is pathognomonic of an abrasion, fissure, or ulceration at its base; hence defecation is usually painful and much dreaded.

The treatment of this affection, to be efficacious, should be to render the stools semi-liquid, to protect the ulcer during defecation, to treat the ulcer locally, and to remove the pile. The ulcer is best protected by an ointment of boracic acid two drachms to the ounce, and an ounce of vaseline, which is applied with the finger immediately before stool.

Treatment of the ulcer should be carried out daily by the surgeon. Since it is situated just within the margin of the anus, a small-sized speculum is usually necessary to expose it thoroughly. It should be touched with nitrate of silver for the first few days to get it in an active granulating state. Then on its surface should be blown some dry powder, as iodoform, aristol, or europhen, for the purpose of hastening cicatrization. Lastly, a small pledget of cotton impregnated with the same powder should be placed directly over the ulcer. This will keep it flat and prevent the rolling in of its edges, and at the same time will exert a certain amount of pressure upon the granulations. In this way nearly all ulcers and fissures of the anus can be cured without resorting to forcible dilatation or divulsion of the sphincter ani.

The hyperplastic pile, as a rule, is the only cutaneous form of pile that will require excision. This may be best accomplished by using toothed scissors which cut without slipping. The pain of this operation can be lessened by the injection of a two-per-cent. solution of cocaine at the base of the pile.

The principal symptoms connected with the hypertrophic pile—that is, the swollen and thickened condition of the anal folds which is apt to be associated with an eczematous inflammation of this region—are itching and moisture. The treatment is that of anal eczema. The best results are obtained by the use of black-wash and oxide of zinc ointment. Ten to fifteen minutes should be spent night and morning in sopping this wash on the parts affected and gently rubbing it into the furrows between the folds as well as on their free borders. After the wash has been allowed to dry, the ointment should be rubbed on in a similar manner. The possible presence of oxyurides must always be considered, and also the relation which gout bears to this troublesome affection.

FIRST AID TO PERSONS INJURED BY ELECTRIC CURRENTS.

PROFESSOR GARIEL, of the Paris Academy of Medicine, presented a committee report at a recent meeting of that body upon the means to be taken in treatment of persons coming in contact with electric wires or apparatus. The following are the conclusions:

When a person meets with an accident due to contact with electric conductors or generators, the contact must first be broken, if it still exists, as otherwise those who come to render assistance may also become victims of the same accident.

The victim is to be carried to a well-ventilated room, from which all persons, except, at the most, three or four assistants, are excluded.

The clothing should be loosened at once, and efforts are to be made at the earliest possible moment to re-establish respiration and circulation.

To restore respiration, recourse should be had mainly to the following two procedures: rhythmical traction on the tongue and artificial respiration, but both must be continued for a sufficiently long time.

Lastly, concurrently with these procedures, the circulation should be stimulated by rubbing of the skin, flagellation of the trunk with the hand or wet towels, and any other means usually resorted to in such cases.—*American Medico-Surgical Bulletin*, February 1, 1895.

A SUGGESTION AS TO THE TREATMENT OF PENETRATING WOUNDS OF THE CILIARY REGION AND LENS.

RANDOLPH (*New York Medical Journal*, February 23, 1895) concludes an instructive paper on this subject with the following suggestions:

In penetrating wounds of the ciliary region and lens, even where light perception is gone, and where usually enucleation is performed, the removal of the lens will often be followed by the recovery of comparatively useful vision.

The time to perform the extraction is in the first week of the injury, when there is less reason for entertaining the fear of sympathetic ophthalmia, and when sympathetic disease is too remote a contingency in any event, and certainly at this stage, to outweigh every other consideration.

The effect of the operation is to remove what is really a foreign body, and at the same time it frees the ciliary region of its infectious contents, very much the effect of opening an abscess.

Cleanliness is imperative in this operation. The author usually sterilizes his instruments by boiling in a two-per-cent. solution of bicarbonate of sodium, and keeps the field of operation constantly irrigated with a two-per-cent. solution of boric acid. Any solutions that irritate—such, for instance, as sublimate solutions—are to be avoided, as they weaken the resisting powers of the eye. The after-treatment consists in the instillation of atropine, one per cent., every four hours, and the wearing of a compress bandage.

Improvement in these cases, as would be expected, is rapid, and, unless it is rapid, one should not delay enucleation.

Reviews.

INTERNATIONAL CLINICS: A QUARTERLY OF CLINICAL LECTURES ON THE VARIOUS BRANCHES OF MEDICINE BY EMINENT MEDICAL MEN. Edited by Judson Daland, M.D.; J. Mitchell Bruce, M.D., F.R.C.P.; David W. Finlay, M.D., F.R.C.P.
Philadelphia: J. B. Lippincott Co., 1895.

This work, the fifth volume of the series of "International Clinics," published by the J. B. Lippincott Company, contains forty-six lectures delivered by eminent medical men in various portions of the world. The papers which strike our eye as being most worthy of notice are those upon "The Antipyretic Treatment

of Enteric Fever," by Finlay; "Alcoholic Peripheral Neuritis," by W. Hale White; "The Treatment of Lateral Curvature of the Spine," by Edward H. Bradford; "Puerperal Sepsis," by E. E. Montgomery; and "Thyroid Gland in the Treatment of Certain Skin-Affections," by Arthur T. Davies.

As in the previous volumes, illustrations are used wherever it is necessary, and the text is well printed and easily read.

THE TWENTIETH CENTURY PRACTICE AND INTERNATIONAL ENCYCLOPÆDIA OF MODERN MEDICAL SCIENCE. By leading authorities of Europe and America. Edited by Thomas L. Stedman, M.D. In twenty volumes. Vol. I. Diseases of the Uropoietic System. New York: William Wood & Co., 1895.

The publishers of the encyclopædic work called "A Handbook of the Medical Sciences" are about to outdo their former efforts by the publication of an international encyclopædia of modern medical science, which will consist of twenty volumes, and extend in its publication from the present time to the beginning of the twentieth century; in other words, nearly three volumes a year will appear. Each volume will contain between seven hundred and nine hundred pages of text, and it is their effort that the contributions shall be made by authors of such distinction that the pages of each volume will be covered by the words of recognized medical authorities. The first volume which has come to hand contains an article by Dr. Delafield, of New York, upon Renal Diseases, a subject which has interested that writer for many years and in which he has done valuable original work. In this article he takes the opportunity of emphasizing the views which he has already expressed before the Association of American Physicians and in the *American Journal of the Medical Sciences* as to the proper classification of the various forms of renal disease. It may be that he does not believe that the therapeutics of renal disorders give very good results, and for this reason fails to give the attention to the remedies to be employed in the various forms of Bright's disease which we should like. Notwithstanding this fact, however, his article is otherwise exhaustive, well worth reading, and is of interest as manifesting the position occupied by the more advanced specialists in renal disease towards the close of the century. The article is copiously illustrated by good cuts. Unfortunately, this cannot be said of the articles of Mr. Reginald Harrison on Surgical Diseases of the Kidneys and of the Bladder, or of those of Dr. Lydston upon Diseases of the Prostate and Male Urethra, in both of which the cuts are very poor. It is true, however, of the article of Dr. Howard Kelly upon Diseases of the Female Bladder and Urethra. This variation in the quality of the illustrations is unfortunate, but probably depends upon the fact that in both instances where the pictures are good, Dr. Delafield and Dr. Kelly provided clear original photographs.

In Dr. Kelly's article he emphasizes his recently introduced methods of examining the female bladder and ureters, and his description of his methods are characteristically clear.

Another article in the volume is written by Mr. E. Hurry Fenwick, of London, and is a carefully prepared monograph, although the title, "Diseases of the Urine," is not only most unusual, but is incorrect from any standpoint.

If each of the succeeding volumes brings to the hands of the practitioner an equally valuable series of communications the profession will be distinctly benefited by this publication, which has as its only disadvantage the fact that by the time the last volume of the series is published the first volume will be almost ancient history. On the other hand, the views which find emphasis in the hands of the very able contributors whom the editor has chosen must for many years represent the best part of medical teaching as we know it to-day.

THE PHYSICIAN'S VADE-MECUM. By S. J. Wimmer, M.D. With additions by F. S. Parsons, M.D. Philadelphia: The Medical Publishing Company, 1895.

This is a poorly-printed, small volume of some five hundred pages, padded at both ends by advertisements, which contains many prescriptions taken from the writings of various physicians more or less eminent. The first few pages contain a table of abbreviations, tables of dosage, comparative thermometric and weight scales, and a list of synonymes of diseases. Following this is a long table of incompatibilities, a dose-list which is quite exhaustive, and much matter of a similar character. After the prescriptions follows a portion which is called "The Physician's Interpreter," which gives the French, German, and English terms commonly used in the practice of medicine, generally in sentences which, in turn, are in the form of questions and answers.

The volume is to be commended for the enormous amount of information which it contains on diverse topics.

TRANSACTIONS OF THE ANTISEPTIC CLUB. Reported by Albert Abrams, M.D.
New York: E. B. Treat, 1895.

This book is practically a parody upon the excesses of modern medicine, and in many portions is exceedingly clever. The characters depicted in it are generally named after the various muscles of the human body, and the character of the text may be judged by the following description of the method and theory in the year 1901:

"The surgeon enters the arena and unbuttons the abdomen of a previously laparotomized patient. The intestines are now exposed to the delighted students, who observe various placards ingeniously attached to the bowels, bearing inscriptions like the following: 'Use Purgine,' 'Get your Medical Books at Stone's,' 'Read's Patent Ventilator is used by these Bowels,' etc."

We have no doubt that those who are fond of this class of literature will find much that is exceedingly amusing in the volume.

THE YEAR-BOOK OF TREATMENT FOR 1895. A CRITICAL REVIEW FOR PRACTITIONERS OF MEDICINE AND SURGERY.
Philadelphia: Lea Brothers & Co., 1895.

"The Year-Book of Treatment," like "The Medical Annual" and "Braithwaite's Retrospect," is so well known to the medical profession that a description of it is unnecessary. The volume for 1895 is exactly like its predecessors and is equally ably edited. It presents a summary of the best and most recent advances in therapeutics, but does so in necessarily limited space, filling a smaller niche in medical usefulness than that which we hope is filled by the THERAPEUTIC GAZETTE. To those who do not subscribe to the GAZETTE, the "Year-Book" is a necessity; to those who do, it is to be recommended.

TEXT-BOOK OF DISEASES OF THE KIDNEYS AND URINARY ORGANS. By Professor Paul Fürbringer. Translated by W. H. Gilbert, M.D. With a commendatory letter by Thomas Grainger Stewart, F.R.S.E. In two volumes. Vol. I.
London: H. K. Lewis, 1895.

As is well said by Grainger Stewart, in the letter which precedes the preface to this volume, Professor Fürbringer has been known to the profession for so many years as an able writer in various departments of medicine that anything he contributes to literature should be carefully studied. It is also pointed out in this letter that all the views advocated cannot commend themselves to every one who has worked in this field, and it seems to us, for this reason, that this volume is peculiarly one for the graduate in medicine rather than for the student. Copious references are made to the researches of various physicians who have studied renal diseases upon the Continent, but those of English and American physicians are almost entirely ignored. Of much interest do we find the statements made by the author in regard to the secondary complications of uræmia, particularly in its effect upon the nervous system. We also note that he believes the theory of Da Costa, Longstreth, and Banti, that the cause of chronic nephritis is disease of the nerve-centres, is merely a matter of historical interest.

A MANUAL OF CHEMISTRY. By William Simon, Ph.D., M.D. Fifth edition. Thoroughly revised and illustrated.
Philadelphia: Lea Brothers & Co., 1895.

Professor Simon's book on chemistry has run through an unusual number of editions for the short time in which it has been before the medical student and profession, and the fact that the fifth edition has been reached in practically less than a decade shows that the author possesses the ability to teach what, to many persons, is an uninteresting part of study in the medical curriculum. In less than five hundred pages he gives all the information that the medical student should have in regard, first, to the facts of physics as they are related to chemistry; second, the principles of chemistry; third, the non-metals and their combinations; fourth, the metals and their combinations; fifth, analytical chemistry; sixth, the consideration of carbon compounds or organic chemistry; and, seventh, physiological chemistry.

The value of the book is much increased by the frequent introduction of plates of colored scales showing reactions of various kinds, while many illustrations of the apparatus employed render the application of the text in the laboratory work easy.

We doubt not that this book will continue to gain in popularity, and we can cordially recommend it to those of our readers who are desirous of improving their knowledge of chemistry in relation to medicine, particularly as in many places it gives valuable information as to toxicological research.

MEDICAL GYNÆCOLOGY: A TREATISE ON THE DISEASES OF WOMEN FROM THE STAND-POINT OF THE PHYSICIAN. By Alexander J. C. Skene, M.D. Illustrated.
New York: D. Appleton & Co., 1895.

This book has been written, so the author tells us in his preface, with the object of affording the practitioner information by means of which he may treat cases by medicinal means

which are often referred to the surgical gynæcologist. This is without doubt a laudable effort, for no one can deny that we are passing through, or have just passed through, an epoch in medicine when operative interference in diseases of women is, or was, too frequently resorted to. As a consequence we took up this volume with the hope that it might prove of value to us and to our readers, but we have scanned its pages with the result that we have found but little additional knowledge and much that we think might have been excluded. If the text, instead of covering more than five hundred pages, had been printed in a small octavo of two hundred and fifty pages, we believe that it would have contained all the useful information at a much less cost and in a form in which it could be readily obtained. At present there is much in its pages which really has very little to do with the subject of which it treats. The first part deals with the primary differentiation of sex, the second with the characteristic of sex, and the third discusses the menopause, or the transition from active functional life towards advanced years. We do not see that in any of these departments much information is given us as to the remedial measures which we may resort to in the treatment of diseases of women. Neither do we see any use in the large illustration of the statue by Rhind of Adam and Eve, which, however valuable it may be as a work of art, hardly finds its place on the eighty-first page in a text-book on gynæcology, even for the purpose of illustrating the difference in the male and female form. Further than this, there is a semi-popular tone which runs through the volume which makes one feel that it was perhaps written rather for the layman or the laywoman than for the doctor, although in many places the information is so technical that it is evident that the work has been prepared for professional readers.

We think that the author relies unduly upon electrical measures in the treatment of pelvic diseases. Popular as this author's work on gynæcological surgery has been in the past, we fear that his hope that this volume will be equally successful is not destined to fulfilment, although the medical man who wishes to study the hygienic care of women will find in its pages many interesting facts and useful hints.

DIET-LISTS AND SICK-ROOM DIETARY. Compiled by Jerome B. Thomas, A.B., M.D.
Philadelphia: W. B. Saunders, 1895.

This book consists of detachable leaves, containing upon one side a proper diet-list for ten of the conditions in which special diet is necessary in careful medical practice. On the other side there is space for additional directions from the physician, and the patient is informed that this diet-list is strictly personal and private and adapted to this particular case alone. We think it unfortunate that, in the endeavor to make this book handsome from the bookmaker's stand-point, the type which has been employed is unnecessarily decorative and large; but, so far as we are able to tell, the directions as to diet, allowing for the differences of opinion which exist in regard to this important matter, are complete and correct in every particular. Undoubtedly this list of diet charts will save the practitioner much time and trouble when he wishes to direct that certain articles of diet shall be taken or eschewed.

INDEX OF MEDICINE AND MANUAL FOR THE USE OF SENIOR STUDENTS AND OTHERS. By Seymour Taylor, M.D.
Philadelphia: Lea Brothers & Co., 1895.

We are told in the preface of this small octavo volume of nearly eight hundred pages, that it was commenced with a view of its being a companion to Keetley's "Index of Surgery," but that it is an index in name only. This is a fact, for the volume practically consists of a condensed book upon the practice of medicine, well put together. It is not so small as many of the manuals and not so large as the regular text-books upon this branch. So far as we have been able to discern, it presents the best views of medical practice today, and is particularly strong in the parts of it devoted to differential diagnosis, which are perhaps the most noteworthy portions of the volume.

TWENTIETH CENTURY PRACTICE OF MEDICINE. AN INTERNATIONAL ENCYCLOPÆDIA OF MODERN MEDICAL SCIENCE BY LEADING AUTHORITIES OF EUROPE AND AMERICA. Edited by Thomas L. Stedman, M.D. Vol. II., Nutritive Disorders.

The contributors to Vol. II. of this system, of which we have already reviewed the first volume in this number of the THERAPEUTIC GAZETTE, consist of Dr. Dujardin-Beaumetz, of Paris, who writes upon Diseases of the Muscles, this being probably the last article which he completed prior to his death; Sir Dyce Duckworth, who writes upon Addison's Disease and other Diseases of the Adrenal Bodies; Garrod, upon Arthritis Deformans, an article which alone covers over sixty pages; Lyman, of Chicago, upon Gout; Maclagan, of London, upon Rheumatism, covering about one

hundred and fifty pages; Von Noorden, upon Diabetes Mellitus; and Oertel, of Munich, upon Obesity. The number of pages which we have already mentioned in connection with the previous articles has indicated how exhaustive is the treatment of the subjects considered, and when we add that Oertel's article extends from page 625 to 725, an additional idea of the thoroughness of the work may be gained. The index, on the other hand, is as incomplete and brief as the text is exhaustive,—so brief that we regard it as a considerable defect in the book, and trust that in future volumes this portion of the work may be more thoroughly carried out.

The standing of the authors who have contributed to this volume and the character of the articles which they have written must very distinctly increase the favorable opinion of those who have carefully examined the first two volumes of this magnificent undertaking.

Correspondence.

LONDON.

(From our Special Correspondent.)

The usual influx of medical men from America has already commenced, and new faces are seen at the hospitals each day. In the first week of May will commence short clinical demonstrations in nearly every department of medicine and surgery, in connection with the different hospitals that have no regular teaching staff. The fee for these courses is very moderate, in no case exceeding ten dollars.

At St. John's Hospital for Diseases of the Skin, Dr. Dockerell gives a very interesting clinic on Wednesday and Saturday. He exhibited a patient recently who had been cured of a very severe psoriasis by means of thyroid extract alone, administered in 5-grain doses three times each day. Great faith is placed in this treatment, and it is now resorted to in every case if the drug is well tolerated. In alopecia, where there is still signs of life in hair-follicles, the following treatment is used and with very gratifying results: the scalp is washed in warm water, and, after drying, a five-per-cent. solution of resorcin is applied each night, 5 grains of euonymin is administered three times each day, and massage of the scalp and faradic current used daily in addition. The patient is advised as well to frequently exercise the scalp by contracting and relaxing the occipito-frontalis muscle.

The treatment for gonorrhœa is salol internally, *t. i. d.*, and injections morning and evening of a twelve-per-cent. solution of resorcin, of which 1 to 2 tablespoonfuls in warm water is used at each application. In second or third attacks a cure of the disease can be obtained in about seven days. The first attack proves more obstinate and requires a longer period for its subjugation.

At Brompton Hospital for Consumption a favorite prescription for stimulating the appetite is as follows:

℞ Soda bicarb., gr. xv;
Fl. ext. ipecac, ♏x;
Liq. amm. acet., ♏xv;
Aquam, q. s. ad ℥i.
Sig.—*T. i. d.* ante cibum.

At St. Peter's Hospital for Venereal Diseases and for Diseases of the Bladder, Mr. Hurry Fenwick gives a very interesting clinic each Saturday afternoon.

The material at this hospital is very great indeed, so that the experience of the surgeon is of special value as to the action of the commonly used drugs. In relation to administration of iodide of potassium, a case was shown in which, after taking 5-grain doses *t. i. d.* for a few days, poisonous symptoms with severe hydroa set in, but no improvement in syphilitic condition. The dose was reduced to 2 grains *t. i. d.*, with marked improvement, and at the time when seen very little trace of disease was evident. Mr. Fenwick gives the drug in as small doses as ½ grain in some cases. The drug may be conveniently taken in a glass of milk, or a small quantity of chocolate eaten immediately after. The first symptom of the drug disagreeing is pain in the left side.

With regard to iron salts, he stated that small doses checked the flow of urine, while large doses increased it. Belladonna given to patients over fifty years of age often causes loss of power of the muscular walls of the bladder, and in patients over that age is never given in this hospital if it is possible to avoid the use of the drug. He also cautioned those present in giving iron to elderly patients.

A case presented itself, aged sixty-eight years, with great frequency in urinating,—as often as every half-hour,—in which, on examination, was found a fibro-myomatous enlargement of the prostate. To this patient a pill was given of,—

℞ Pulv. aloes, gr. ii;
Pulv. opii, gr. ½;
Ext. nucis vomicæ, gr. ¼.
M. ft. in pil. no. i.
Sig.—One three or four times each day.

If pus was present in urine, he would give, instead of the above, if urine of a high odor, sodium benzoate and nux vomica. When excessive presence of urates, the following prescription:

℞ Pot. bicarb., gr. viii;
Pot. citras, gr. xx;
Lithiæ carb., gr. iv;
Sacch., ʒi. M.
Sig.—In hot water, *t. i. d.*

At the Royal London Ophthalmic Hospital, when it is necessary to use atropine in the cases of children, the use of the guttæ has been discontinued by the majority of the surgeons and the unguentum atropiæ (4 grains to 1 ounce) is used instead. Atropine delirium is less likely to occur with the latter preparation. Before the unguentum atropinæ was used many cases of delirium occurred, the symptoms of which resemble very much the early stages of delirium tremens. If I were to choose the favorite drug of the London public at the present time, it would be eucalyptus oil, which is looked on here as a specific in all catarrhal affections, and particularly as a preventive of influenza.

THE GREATER SAFETY OF CHLOROFORM IN PARTURITION THAN IN SURGICAL PRACTICE.

To the Editors of the THERAPEUTIC GAZETTE:

DEAR SIRS:—In the March number Dr. F. Gundrum says, "When a person is about to undergo a surgical operation the whole nervous system is depressed, all the centres and the whole mind being full of apprehension of danger, while the psychic condition is such that the dynamic nerve-force is sometimes brought to quite a stand-still, and extinction of life becomes easy."

There can be no doubt of the doctor's logic or scientific conclusion, so far as chloroform in surgical practice is concerned; but when he joyfully ascribes the reason for comparative immunity from risks in chloroform anæsthesia in a parturient woman to be "because the patient has the hope and inspiration of soon becoming a mother," I am quite certain that his reasoning is from a wrong basis. "She is suffering pain," he continues, "and knows chloroform will relieve it, and she breathes it with confidence, with a firm belief that while it relieves her agonies, it does not interfere in the least with her hope of soon becoming a mother."

Gestation, with all the discomforts attending the majority of pregnant women, is a condition not so much of deliberation as a matter of course under existing circumstances. The most inexperienced patient soon learns that the time of her waiting will be about nine months, unless accident or multiple pregnancy should make it shorter by a few days or a few weeks. Only a few women do really enjoy this period by better health than ordinary, greater vigor, perfect appetite and digestion, and magnificent spirits throughout. In addition, there is a desire and ability to work early and late at all things about them, all of which puzzles themselves and their friends. They sleep well, eat abundantly and continuously, and resign themselves to the inevitable delivery which hangs like a heavy storm-cloud in the distance, but must be met and endured sooner or later. Only a few women do not suffer at all at this crisis. The majority are less fortunate. In addition, some are distressed in the early months by untoward ailings, others later on, others again suffer at one time and then at another, still others from the moment of conception to the end, and even through the weary months of nursing.

Nature at all times has kindly endowed women with a special buoyancy, which enables them to carry forward extra physical or mental burdens. This buoyancy is always enhanced during pregnancy, revivified and quickened and accompanied by an adaptability only a little short of miraculous. It is the factor which saves many a woman from despair as her delivery draws nigh. It is this peculiar gift which makes her so helpful and forceful at times, and in many ways where a disinterested judgment would expect no more from her than from an infant in arms. Often in ordinary times of great emergency a man would utterly fail where she would be colossal in calling together, apparently without effort, her powers of defence and protection, and know at the spur of the moment what is necessary in the case, evolve the proper stimulus and apply the correct remedy. This might be called the sixth sense of women; and when this fails one during gestation, the supreme period of her life, and along down the whole time to the end of her labor, she is almost always a doomed woman.

In the last few hours of labor, which might be called the chloroform period, there is no time nor thought nor desire for sentiment or elusive poetry on the part of the mother. If she ever did have any "hope" or "inspiration" to become a mother, there is none at this time. All that she realizes now, wants, thinks,

feels, calls for, and demands out of the vocabulary of words that has not forsaken her, is to be delivered quickly from the child that is "tearing and stabbing her flesh" and "splintering her bones." She will beg and tease for chloroform and inhale it voraciously, and, if a morphine fiend, will surreptitiously double her usual dose, and after will ignore her child for hours and sometimes days.

Parturition has the advantage over surgical practice in that the former does not require always total anæsthesia. To dull the agony in the compressed nerves is sufficient. In simple labor, two or three hours at the end, when the terrific pains of expulsion hold the patient in their vice-like grip, is chloroform used, and then only during the continuance of the pain, rarely in the interval. And an obstetric patient is seldom so completely under the influence of the anæsthetic that she cannot answer or ask questions or make suggestions as to where things may be found, whom to send for, what to do for husband or children in case of her own translation, etc. For this reason parturition can hardly be compared to the practice of surgery in the use or danger of chloroform. And, indeed, if there ever was a time which gave women hope and inspiration to become mothers, it has very little relation to the end of the nineteenth century. Women and girls have been compelled to look beyond the charmed circle of domestic bliss and families, and in too many instances wives live in momentary fear of even one child.

It is the sixth sense that carries her safely through the valley of the shadow of death, and not the "hope and inspiration of soon becoming a mother."

ODELIA BLINN, M.D.

CHICAGO, ILL.

ELECTRICITY FOR ENLARGED PROSTATE.

To the Editors of the THERAPEUTIC GAZETTE:

DEAR SIRS:—The editorial and other references to the value of castration in hypertrophy of the prostate in the March number of the GAZETTE have stimulated me to call renewed attention to the value of electricity in the same condition,—that of simple or chronic inflammatory enlargement of the organ. It was possibly my suggestion of the applicability of a modified Apostoli treatment of the prostate that directed Dr. White's attention to the possible value of an operation resembling removal of the appendages for uterine fibroid, for the suggestion was made and published in the proceedings of the American Electro-Therapeutic Association in October, 1892, Dr. White's notable address following in June, 1893. The value of castration in selected cases seems not only rational, but demonstrated, and adds considerable force to my own observations that a treatment that is analogous to those found effective in hypertrophy of the uterus would be of service in hypertrophy of the prostate. It is additionally interesting to note that the contra-indications given in the editorial as applying to castration are also applicable to electric treatment.

My experience in the treatment of hypertrophy of the prostate now embraces six cases, three of which were cured, two improved, and one not improved.

Very truly yours,

G. BETTON MASSEY.

PHILADELPHIA, 1895.

HYPNOTISM AS A THERAPEUTIC AGENT.

To the Editors of the THERAPEUTIC GAZETTE:

DEAR SIRS:—My experience with hypnotism for the past five years has convinced me that it is a very potent therapeutic agent. I think if the medical fraternity would pay more attention to hypnotism in the future than they have in the past,—organize societies, hold meetings regularly, change the name to Suggestive Therapeutics,—they would be able to elevate it in their own minds to such an extent that they would not be deterred from using it in their practice, and the laity would soon conclude that it was not the agent of the evil spirit, but, on the contrary, a great blessing. I use hypnotism instead of chloroform and ether in minor surgery, obstetrics, curetting the uterus, and where I desire to make strong applications in gynæcological cases, such as chromic or fuming nitric acid; I also use it in migraine and all nervous diseases, whenever the patient is perfectly willing to give it a trial, and is susceptible. The patients never complain of having experienced pain or nausea; never feel depressed after being restored to their normal condition. They describe the sleep as being very pleasant, giving them complete rest; seem to be perfectly unconscious of what has transpired, asking if you are through with them. All I have to say to "doubting Thomases" is, study it, try it with your patients, and let us hear from you through the columns of the THERAPEUTIC GAZETTE.

GEORGE SILVER, M.D.

CHICAGO, ILL.

FERRATIN (BOEHRINGER B. & S.)

THE FERRUGINOUS ELEMENT OF FOOD.

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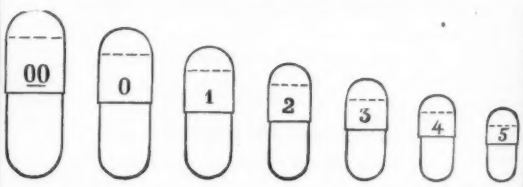

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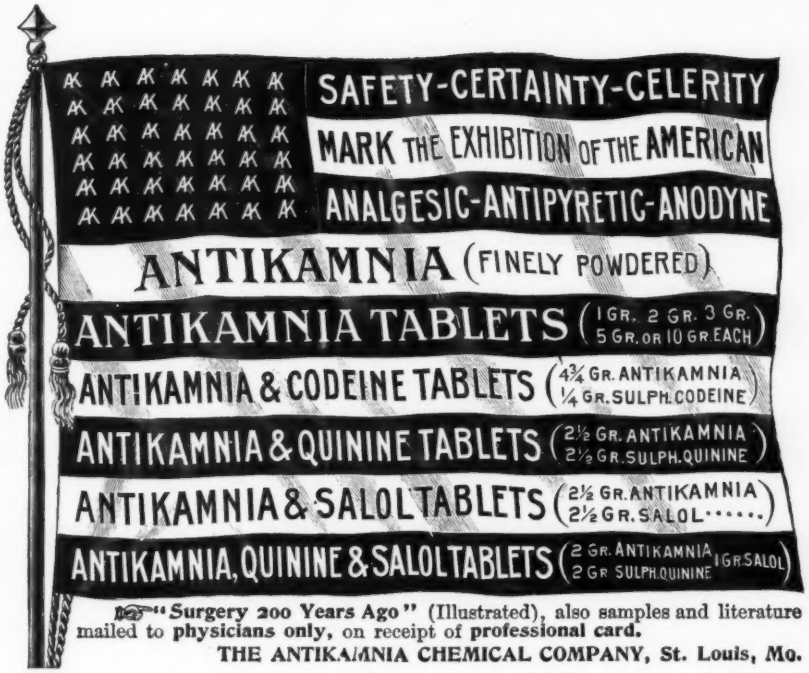
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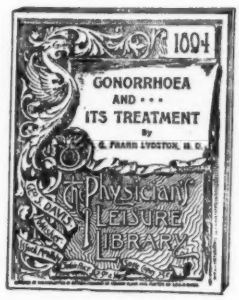

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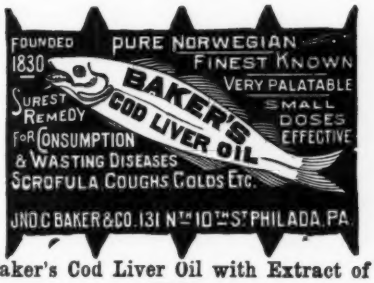
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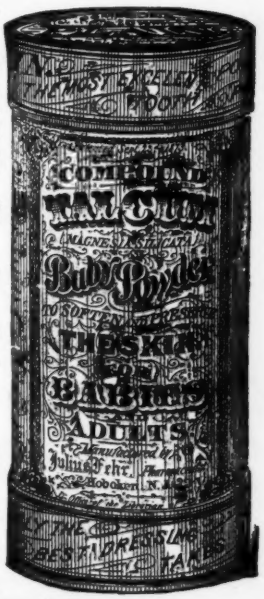

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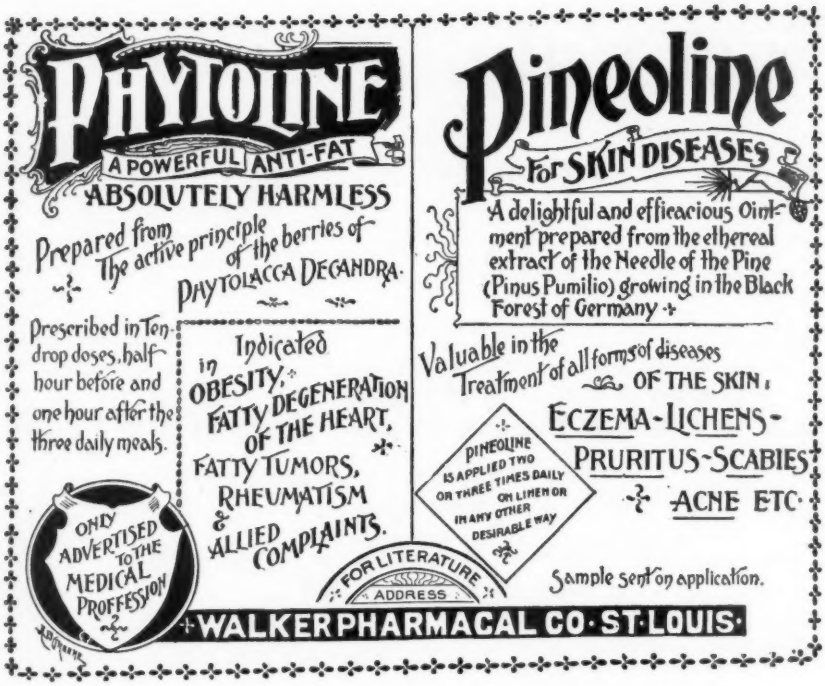
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